PAPER TRADE JOURNAL
Reg. U. S. Pat. Off.
SIXTY-FOURTH YEAR
Established Feb. 17, 1899
Consolidated Nov. 16, 1899
with Paper Trade Journal.
Vol. CII, No. 23
Thursday June 4, 1936
Established Sept. 21, 1910
Consolidated Feb. 19, 1925
with Paper Trade Journal.

# To Build Mills in South Carolina and Florida

## West Virginia Pulp & Paper Co. to Erect Big Kraft Plant at Charleston, S. C.—First Unit Will Have Capacity of 250 Tons of Liner Board—St. Joe Paper Co., Du Pont Interest, to Construct Board Mill at Port St. Joe

The West Virginia Pulp and Paper Company is planning construction of a 500 ton mill at Charleston, S. C., to produce kraft liner board. The mill will be located at Tidewater on the Cooper River within ten miles of the business center of Charleston.

This project has been contemplated for sometime and the company was prompted to go ahead when President Roosevelt signed a bill last Wednesday whereby the United States Government deeded to the city of Charleston a large tract of land used for war purposes in 1917 and 1918. The company had arranged to take over this ground on a long-time lease as soon as available as a site for a proposed mill.

### One Unit To Be Constructed

Only one unit of the mill will be constructed at present, to have a capacity of 250 tons of .016 liner board for which there has been a steadily increasing demand. The mill will be equipped with one Fourdrinier machine with 240-inch wire. The pulp mill will be equipped with four digesters to produce unbleached kraft pulp.

Construction of this unit will start in a few weeks under the direct supervision of the West Virginia Engineering Department.

Theodore Cook, assistant superintendent of the soda pulp mills at the Tyrone, Pa. plant for many years, will be in charge of the new mill, which is expected to be in operation next summer.

This unit, it is understood, will cost several million dollars.

### Adequate Pulpwood and Water Supply

Arrangements have been made with the city of Charleston for an adequate supply of water for the new project. The company has been accumulating timber lands in both North and South Carolina for some time past and has already acquired limits valued at more than $4,000,000.

No definite arrangements have been made as yet for the financing of the mill, but it is unlikely that there will be any stock offering. At the end of 1935, West Virginia Pulp and Paper Company held $2,238,881 of cash and held stocks and bonds with a market value at that time of $1,970,715. There were outstanding then 153,416 shares of $100 par preferred stock and 904,507 shares of no-par common stock.

The company already has mills at Mechanicsville, N. Y., Williamsburg, Pa., Tyrone, Pa., Luke, Md., Covington, Va. and Cass, W. Va.

### Du Pont Project at Port St. Joe

The St. Joe Paper Company, a Du Pont interest, has filed incorporation papers and announced that a $7,500,000 paper mill would be constructed at Port St. Joe, Fla.

Edward Ball of Jacksonville, president of Almours Securities, Inc., announced the purchase of 145,000 additional acres of land in Gulf, Calhoun, Franklin and Bay Counties by Gulf Coast Properties, a subsidiary of Almours. The concern now owns about 500,000 acres in Northwest Florida.

The paper company was organized by Almours with George H. Mead as chairman of the board and Sydney Ferguson as president. Mr. Ball said it would employ about 1,000 persons and furnish work for 2,000 others in the timber lands. It will manufacture kraft liner board used in paper containers.

---

## Crescent Mills Village Sold

[FROM OUR REGULAR CORRESPONDENT]

RUSSELL, Mass., June 2, 1936—The Springfield Five Cents Savings Bank, of Springfield, Mass., foreclosed a mortgage of $50,000 on the paper mill of the Chapin and Gould Paper Company last Wednesday, the bank taking most of the real estate, including a large part of the village owned by the paper concern, there being about 100 residents. The outlook is for the acquisition of the property by new owners.

The property includes all of the Chapin and Gould Paper Company holdings in the town, as well as real estate in the town in Huntington, Blandford and Montgomery.

The mortgage was origianlly given by Henry A. Gould, Annie Chapin, Charles L. Chapin, Elizabeth H. Chapin and Henry G. Chapin on November 1, 1899. Dwight Winter was the auctioneer. He described the property and advised his large crowd of listeners that $10,000 was required to be paid in cash at the time of the sale.

The company was incorporated in 1900 with a capitalization of $20,000. Charles L. Chapin of this city has been president and treasurer of the firm.

# C. H. Carlisle Heads Upper Lakes Paper Co.

## Dominion Bank President Heads Organization Recently Incorporated In Ontario to Acquire Assets of the Former Great Lakes Paper Co.—Issue of Securities Of the New Corporation Shortly Will Complete Reorganization

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., June 1, 1936—C. H. Carlisle, president of the Dominion Bank, has been named president of the Upper Lakes Paper Company. The company was incorporated in Ontario April 3, 1936, to acquire assets of the predecessor company of similar name as part of the reorganization adopted by bondholders. E. G. Long, of Long & Daly, Toronto Law firm, is vice-president. Arthur D. Cobban, of Wood, Gundy & Co. and R. G. Meech of Long & Daly, are directors representing bondholders. Ray Lawson, of London, Ont., vice-president of the London and Western Trust Co., and Harry Murphy, well known Fort William lumberman, are also on the new board. Publishers' representatives on the board of directors are L. E. Aldrich and John W. McCurdy, Chicago. A ninth director, representing publishers who have entered into long-term contracts to buy the company's newsprint, is to be appointed at an early date. Plans are being pushed to issue securities of the new company early in June, whereupon reorganization will be complete.

### Rehabilitating Abitibi Company

In January of this year the Hon. Peter Heenan, Minister of Lands and Forests of Ontario, told the bondholders committee of Abitibi Power and Paper Company that the Government would like to see the company reorganized as soon as reasonably practical. Bondholders, preferred and common shareholders all share the desire of the Government but groups regard a date that would be reasonably practical as one when a reorganization would be under circumstances that would permit the reorganizers to consider their claims favorably. The difficulty is said to be that no one—Government, receiver, auditors, executive officers or experts—knows the market value of Abitibi assets even approximately. The receivers financial statement for 1935 shows the book value of all assets at the end of 1935 at $122,200,000 just before the receivership. It also shows the net value behind all classes of securities at about $114,000,000 on December 31, 1935, as compared with $186,000,000 on April 30, 1932, or about $174,000,000 if Provincial Paper assets are left out. But two-thirds of the assets represented in that figure have so far been a millstone round the neck of the company, it is stated. If the company had never taken over those water-laden assets with their contingency obligations it would still in all probability be a solvent company even if the book value of the assets still remained at the $33,000,000 shown back in 1925 and 1926.

### Ontario Paper Co. Plant Progress

It is learned at Thorold, Ont., that the steel contract for the power development and paper mill at Comeau Bay, Que., has been let. Inaugurated by the Ontario Paper Company, Ltd., Thorold, Ont., the undertaking is to be completed in May, 1938 and is to represent an investment of $8,000,000. The development consists of a 60,000 h.p. hydro-electric plant on the Outarde River with a transmission line to the mill at Baie Comeau, and a two-machine newsprint mill and townsite. It is said that 1936 work will be all under water in connection with the power house and reparation to the foundations for the pipe line, clearing of all land, etc. Excavation for all mill buildings, storage buildings, machine shops and supply buildings and officers will be proceeded with at once. These will also include construction of 25 dwellings, staff house and hospital.

### May Get Heat from Paper Mills

The possibility arises that some day Port Arthur, Ont., may be obtaining its heat from the paper mill instead of from coal imported from the United States. The prospect is presented in a paper prepared for the United States National Academy of Sciences by Dr. A. M. Partansky and Dr. H. K. Benson of the University of Washington, at Seattle. They describe experiments in which the microscopic organisms found in common mud were used to generate methane gas from the sulphite waste liquor discarded by pulp and paper mills. The heating value of the gasses produced by the fermentation of sulphite liquor, they said, "was equal to 4,767,000 British thermal units or 18,730 h.p. hours" per ton of pulp paper manufactured. The experiment was undertaken at the suggestion of paper mills in the Pacific Northwest in an effort to eliminate the pollution of streams and ocean waters. Officials of newsprint companies in Port Arthur verify the statement that heat can be produced as described.

### Mill May Run Two Machines

Preparations are being made at the Thunder Bay paper mill to bring the second newsprint machine into production shortly. Employees who were laid off during the Winter have been summoned back to the plant and are at work rehabilitating the machinery and equipment. Officials of the company admitted this week that there was considerable activity around the plant, but they were not in a position to state when the second machine would start operating. It was learned that the Pine Falls mill in Manitoba, being operated by the bondholders of the Abitibi Power and Paper Company, is also ready to start operation of a second machine. Production of newsprint at present is said to be almost near the peak of the production some years ago, and that indications point to the production being considerably higher in tonnage than in the former peak years. Much of Ontario's newsprint is now finding a market in the United States.

### Canadian Pulpwood for Hammermill Co.

Don. A. Clarke, timber operator at Port Arthur, has obtained from the Hammermill Paper Company a contract for 20,000 cords of sap peeled pulpwood to be delivered for shipment during the season now opening. This operation will provide employment for from 500 to 600 men for nearly three months. The wood will be taken from the east side of Lake Helen, about seven miles above the village of Nipigon, in the vicinity of the townships of Booth, Purdom and Ledger, which in recent years have been frequently spoke of as desirable agricultural territory. The men to be engaged in this work will be hired in the Lakehead cities. When their employment is over they will leave the camps and return there to await new employment.

# Consolidated Equips Another Coating Machine

## Patented Equipment Manufactured by Beloit Iron Works Being Installed On No. 2 Machine At Wisconsin Rapids Plant—UNIT—Formerly Used for Production of Book Paper—Demand for New Coated Paper Expanding

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 1, 1936—Widespread demand for the new coated paper manufactured by the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., has made it necessary for the company to equip its No. 2 machine for this purpose. The machine has been down about three weeks while patented equipment made by the Beloit Iron Works has been installed.

The coating process, which is done on the paper machines, was inaugurated on the Company's No. 4 machine in August, 1934. The No. 2 machine will produce 45 to 50 tons daily, greatly increasing the output formerly produced by the No. 4 machine, which has a capacity of 70 to 80 tons daily. The No. 2 machine formerly was used on book paper.

Four new 2,000-pound beaters have recently been installed at the Wisconsin Rapids mill. The beater room operation is entirely by beaters now, instead of using mixing systems.

Annual labor negotiations between the Consolidated company and the paper mill unions were completed last week, and a new contract signed. There were no general wage increases, but the machine room scale was raised to meet standard union schedules.

Employees working 36 hours per week on six-hour shifts were granted a minimum of 45 cents an hour, which amounts to a two per cent hour increase for those in that group receiving the previous minimum of 43 cents.

This is the eighteenth annual contract negotiated between the Consolidated and the employees of its four mills.

### Paper Chemistry Institute Conference

More than fifty principal executives of pulp and paper mills which are members of the Institute of Paper Chemistry, Appleton, Wis., will gather on Friday and Saturday, June 5 and 6 to attend an executive conference and inspect the entire plant, including the $100,000 additions now rapidly nearing completion. That number have already indicated they plan to attend, and additional acceptances were expected.

The program for Friday will include a thorough inspection of plant and equipment by the entire party. After a golf game in the afternoon, the group will gather at the North Shore Country Club for dinner and an address by Dr. Henry M. Wriston, director of the Institute and president of Lawrence College.

Saturday morning's program will consist of a series of brief presentations by Dr. Otto Kress, technical director; Dr. Ben Rowland, research associate; Dr. Harry F. Lewis, dean, and Westbrooke Steele, executive secretary. D. C. Everest, vice-president of the Marathon Paper Mills Company and vice-president of the Institute, will lead a round-table discussion of the attending executives. The meetings will close with a luncheon at the North Shore Country Club.

Work on the additions to the Institute is rapidly nearing completion. The exterior work has been finished, and the finishing touches are being made on the interiors. The basement floor of the machine room was laid last week, and the boilers were put in place. Installation of an electric transformer station has been started. It is expected the building will be fully equipped, including miniature paper machines, by the time classes open at the Institute in the fall.

### News of the Industry

Paper manufacturers will benefit by a revision in freight rates, if the recommendations of examiners who conducted hearings are accepted by the Interstate Commerce Commission. These provide that Wisconsin firms in the northern two-thirds of the state, which includes the entire paper mill area, be given the same freight rates to the south as Illinois and eastern shippers. The changes will place Wisconsin shippers on a par with those of Illinois and the east for the first time in years.

A new warehouse 42 by 60 feet and an addition to an existing building are under construction at the Neenah Foundry Company, Neenah, Wis. The cost of the work is estimated at $4,500. Fluor Construction Company of Oshkosh, Wis., has the contract.

D. C. Everest, vice-president of the Marathon Paper Mills Company, was re-elected a vice-president of the Employers Mutuals, Wausau, Wis., at the annual meeting last week. The company is a large operator in the field of workmen's compensation. Charles S. Boyd, president of the Appleton Coated Paper Company, was re-elected to the board of directors.

A new industry known as the Appleton Paper Products Company is to be started soon at Appleton, Wis. A factory building has been leased and machinery is being installed.

The company will manufacture paper set-up boxes for retail merchandise, with a market largely among industries selling to retailers. Ten machines will be installed and will be in operation in about two weeks, with a capacity of 1,000 boxes daily.

Organizers of the company are John R. Newbury and Glenn H. Opperman. They have purchased all of the assets of the Green Bay Paper Box Company, Green Bay, Wis., and are moving the equipment to Appleton.

Box board manufactured by Fox River Valley mills will be utilized largely by the new company.

Mrs. Marie Bernhardt, who has been an officer of the Leader Card Works, Milwaukee, Wis., for a number of years, has resigned to take a position as sales and promotion manager of Otten Brothers, Inc., Detroit, Mich. She is one of the few women executives to hold an important executive position in the paper industry, and to attend conventions of the National Paper Trade Association. Mrs. Bernhardt was said to have had eighteen business offers from various parts of the United States when her resignation became known.

Leo A. Gardiner, who has been instructor in printing at the junior high schools at Appleton, Wis., has accepted a position in the sales department of the Nekoosa-Edwards Paper Company, Port Edwards, Wis. He will begin his new duties on June 15.

Carl Rieschel, manager of the printing department of the Menasha Products Division of the Marathon Paper Mills Company at Menasha, Wis., and Miss Genevieve Becher were married last week at St. Mary's church, Appleton, Wis. Mr. and Mrs. Rieschel are enjoying a honeymoon trip, after which they will reside at Menasha.

# Container Issue to Provide for New Kraft Mill

## Proposed Refunding of Corporation Would Take Care of Re-Financing and Cost of New Plant to be Built Next Year At Fernandina, Florida—President Paepcke States Kraft Mills Are Operating More Profitably

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., June 1, 1936—Walter Paepcke, head of the Container Corporation of America, recently discussed the company's refunding proposal which, in addition to taking care of re-financing, is expected to provide about $6,000,000 for the new 120,000 ton kraft mill to be built next year in Fernandina, Florida. Mr. Paepcke pointed out that kraft mills operating in the south are showing a profit of about $10 a ton compared to the profit of northern mills estimated at approximately $3 a ton. The Container executive is reported to have added that share earnings should benefit materially after the new mill is operating and on the present market basis.

Mr. Paepcke stressed the importance of design and art within the paperboard industry before asking customers to adopt new designs at the opening meeting of the Fifteenth Annual Exhibition of Advertising Art held in Chicago this week. Present were artists, art directors and advertising representatives. Mr. Paepcke outlined a procedure within his own company that is adaptable to the paper industry at large. In an endeavor to "get across the idea concerning new design", said Mr. Paepcke, "we decided we should put in effect good design, composition, printing, color work and so forth on all the things that we control".

The Container Company then applied its own ideas on its trucks; checks; annual report (a decidedly new thought involving typography and design); advertising and letterheads and other items over which the concern had control and was perfectly free to try out its own program. "We hope", said Mr. Paepcke, "that other people will say, 'Container Corporation, you have done so well with yourselves that we would like to ask you to come in and do something for us'."

Mr. Paepcke said that the paper industry also had the opportunity of advertising its own greatness, what it is, what position it holds and its relation to all business. "The general public does not realize", concluded Mr. Paepcke, "that if this industry is to grow two things will have to be furnished—one is the consumptive avenue for the additional paper that we and others are to produce and, consequently, they will probably have to furnish the capital to allow us to grow, as the additional tons of paper—whether it is newspaper or paper-board or what not—which are going to be produced means additional factories and additional factories means an additional investment of money on the part of someone."

### Paper Salesmen Open Golf Season

The Midwest Division of the Salesmen's Association of the Paper Industry opened its annual golf season on May 22 with the largest turnout ever enjoyed except at the annual Fall outings held in conjunction with the meetings of the National Paper Trade Association. Seventy-eight members and guests assembled at the Park Ridge Country Club, a definite tribute to the ability of Burt Fisher, chairman, to attract substantial interest in these good fellowship programs. Prize winners were as follows: low gross, Harry Todd; low net (17 and under), Dick Cook; low net (18 and over), Frank Stephens; low putts, Henry Fulton; Blind Bogey, Herman Berge; low net foursome, Tom Salsman, Henry Fulton, Greg Frelinger and Courtney Reeves; low put foursome, A. G. Shennan, Warren Moore, J. W. Sterling and Ben Babbitt; high gross, first hole, John Loughran; low net, first nine, Joe Murnane; low net, second nine, A. J. Austin. The next outing is scheduled for Friday, June 26, at the Bob-O-Link Golf Club. The routine of luncheon, afternoon golf and dinner and song fest in the evening will again be followed out.

### News of the Industry

Chicago was the scene of an important meeting of newspaper plant executives last week — the tenth mechanical conference of the American Newspaper Publishers' Association. The conference was given over largely to a discussion of the manufacture and handling of newsprint. On the program was R. R. McCormick, publisher of the *Tribune*, who explained the steps in processing newsprint in the *Tribune* paper manufacturing mills. He said that meticulous care was necessary in all stages of production to insure a paper of high quality and that even in handling the finished product care must be exercised as "paper is a sensitive commodity and easily damaged".

Representatives of fifteen paper jobbing concerns in Illinois and Iowa met last week at Rock Island to discuss problems confronting both the Illinois and Iowa Paper Merchants Association. Illinois concerns represented were the Capital City Paper Company, Springfield; Schocker Paper Company, Rock Island; Pilcher Paper Company, Joliet; Elgin Paper Company, Elgin; Newhouse Paper Company, Moline; Keller-Flesch Paper Company, Alton and the J. C. Streibich Company of Peoria.

The morning session was presided over by members of the Iowa association, with A. D. Riley of the Pratt Paper Company, Des Moines, stressing the need of coordinated effort to improve the creative standards of the paper industry.

C. E. Roach, president of the Illinois Paper Merchants Association, presided over the afternoon session which was featured by an informal talk given by C. A. Spaulding, assistant secretary of the National Paper Trade Association. Mr. Spaulding discussed processing tax funds and invited particular attention to the legislative program of the N.P.T.A.

The Chicago sales staff of Hollingsworth & Whitney, under the supervision of Frank Prentiss, has been augmented by the addition of Carl Trost who will work out of the western sales offices. Mr. Trost is well and favorably known in the Chicago territory, having gained a great deal of experience with a number of local organizations.

Sentiment within the Chicago paper market seemed to indicate improvement during the past week, although the volume of business done was little changed over last week. However, reports show an undertone of buoyancy which is expected to project the industry out of the normal seasonal reaction and into a comparatively active buying season. Fine papers, in particular, gave evidence of more interest during the week with the bond market, in general, showing an increase in orders, though this improvement was characterized as spotty. Books were in slightly better demand while covers also invited improved comment. The markets were said to be firm. Krafts were unchanged.

# Paper Business Fairly Satisfactory in Boston

## Demand for Various Grades of Paper Well Up to Average for the Season —Outlook for Future Orders Considered Favorable—Better Board Mill Demand Experienced for Mixed Papers and Old Newspapers, Prices Firmer

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 1, 1936—Business with Boston paper merchants continued fair last week, spotty in some cases. The usual call for fine papers was made, with a favorable prospect for future orders. The demand for paper bags was rather good. Box board remained quiet.

As a whole, the paper stock market was slow, although improvement developed in some lines. In old papers, mixed papers were in better demand, with the quotation remaining at .20 @ .25. Old newspapers showed improvement also, the price advancing to .25 @ .27½ from .22½ @ .25. Kraft corrugated boxes, however, declined to .90 @ .95 from .95 @ 1.00. In bagging, foreign and domestic manila rope remained steady, although transmission rope declined to 1.20 @ 1.30 from 1.30 @ 1.40, and heavy wool tares to 1.90 @ 2.00 from 2.10 @ 2.15. New and old domestic rags continued steady at the same levels. Roofing rags held very well, with the price more likely to go up than down. In foreign rags, new silesias advanced to 5.25 @ 6.00 from 4.75 @ 5.25.

### Boston Paper Trade Outing Planned

The regular June meeting and outing of the Boston Paper Trade Association is to be held at the Charles River Country Club, Newton Centre, Mass., Monday, June 8. Two applications for regular membership and three for "limited" membership will be voted on.

The program includes outdoor sports, with the following committee and the events of which each one is in charge: Mystery contest, W. Gardner Very, chairman; horseshoes, R. P. Teele; putting, W. C. Ross; bowling, H. W. Lockhart; ball game, P. M. Beach. Golf includes an 18-hole handicap medal play, four ball only, kickers handicap, a special event and guests' handicap tournament, for guests only. Prizes will be awarded to winners in all events.

This is the fifteenth year's play for the handsome silver golf championship cup offered by the Boston Paper Trade Association, which must be won three times to become the permanent property of the winner. Meanwhile, it will remain in the custody of the winner of the best net score each year until such time as someone shall have won it three times.

Winners are as follows: Charles A. Esty, William Stetson, Jr., Asaph Churchill, John Munro, E. Lindsey Cummings, Edward D. Bement, William Stetson, Jr., Norman Harrower, Roger B. Taft, W. Edwin Porter, Jr., John R. Whitney, W. H. Anders, John Munro and John R. Whitney.

The golf committee is composed of W. J. McLellan, E. D. Bement, Nelson Feeley, Maurice A. Park, W. Edwin Porter, Jr., and John R. Whitney. A regular buffet luncheon will be served at the locker building from 11:30 on. Dinner will be served at 6:45 p.m. Facilities of the Club will be at the disposal of the members of the association and their guests all day.

### Paper Box Makers' Picnic

The Paper Box Makers and Supply Men's Outing, under the auspices of the Metropolitan Paper Box Manufacturers Association, is to be held June 10 at the Vesper Country Club, Tyngsboro, Mass. The program includes a golf tournament for the Carton Club Trophy, beginning at 8:30 a.m., with prizes for the best net, second best net and best gross scores and first and second kickers handicap and a baseball game between the Supply Men's Team and the Box Makers' Team at 2 p.m. There will be quoits, bowling on the green, nail driving contest and various indoor sports. Les Friend is general chairman; Howard Wilkins, chairman of the golf committee; Leonard French, chairman of the game committee, and Frank Babcock, chairman of the ticket committee. Luncheon will be served at the club house at 1 p.m. and dinner, when the prizes will be presented at 6:30 p.m.

### News of the Industry

Arnold-Roberts Company recently began to handle a new line of papers, Rangeley Tints, made by the Waterfalls Paper Company, in white and seven colors, two finishes and four sizes. This is a moderate priced paper, which will run equally well on letter press or offset. Arnold-Roberts Company is to issue a new price book shortly.

The executives and sales staff of Knight, Allen & Clark, Inc., were guests of the International Printing Ink Corporation in the Harbor Building, Saturday morning, May 23, when three men of that concern gave talks on "Color," lasting in all an hour and a half. The talks were much enjoyed by all present.

Certificates of Award for the First Prize for outstanding skill in the production during 1935 of broadsides printed on Cantine's Coated have been received by Knight, Allen & Clark, Inc., and presented to the International Printing Ink Corporation and the Oxford Print.

Walter Firby, who covers the North Shore for Knight, Allen & Clark, Inc., and has been recuperating from an illness at his residence in Lynnfield, Mass., is expected to return to the office this week.

Colonel Edgar Smalley, managing director of Edwin Butterworth & Co., Ltd., Manchester, England, is here on his usual annual trip, visiting the offices of E. Butterworth & Co., Inc.

---

## Holyoke Water Power Co. Repairs Canal

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., June 2, 1936—The Holyoke Water Power Company took advantage of the double holiday to start safety work on the head gatehouse and the overflow to the canal near the gatehouse, thus guarding against any mishap to the hydraulic situation if another big flood takes place. When completed the company believes that the only handicap to paper mills on high floods will be the loss of power to those on the river bank. Buttresses are being built on the down stream side of the gate house and three have been created on the river side of the overflow, all calculated to withstand the pressure of a 25-foot flood—several feet higher than the last and highest one on record. Gangs of 50 men on 12-hour shifts worked from 7 A. M. Saturday to 2 A. M. Monday on the work; and work will continue each Sunday until completed.

# Demand for Paper Increases in Philadelphia

## Gains Registered in Sales Volume of Fine and Coarse Papers—Greater Activity Than Last Year Predicted for Summer Specialties, Providing Normal Warm Weather Prevails—Firm Price Situation Is Maintained

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., June 1, 1936—With gains registered in both fine and coarse paper divisions of the paper trade here it is expected prices will remain firm. However, it is felt that if prolonged coolness which we are experiencing continues during the next month or so, summer specialty sales might be affected, but if normal weather prevails it is expected these lines will make a better showing than even last yar.

### Association Activities

The regular meeting of the Fine Paper Division of the Paper Trade Association of Philadelphia was held on Thursday with luncheon at 'noon in the Down Town Club. Ormond Freile presided.

Extensive work is being done here in Philadelphia among the Fine Paper Division in connection with the Merchandising Survey that is being made under the direction of the committee of which Wm. A. Hentz, sales manager of the Thos. W. Price Company, is chairman. Regular luncheon meetings are being scheduled by Ormond Freile, vice president of the Fine Paper Division, at which there will be round table discussions of questions vitally important in the executive viewpoint of paper merchandising.

### News of the Industry

Robert C. Fay has been appointed sales manager of the A. M. Collins Manufacturing Company, supplanting W. R. Talbot, whose resignation was recently announced. Mr. Fay, by reason of his years of merchandising experience with both mills and merchants, is well known in the paper trade throughout the United States. Included in his merchant connections were Butler Paper Company and Chicago Paper Company, where he acquired an intimate knowledge of the problems of printers and other specifiers of paper. His mill connections were Appleton Coated Paper Company, as sales manager, and later for several years American Writing Paper Company. In the latter connection, Mr. Fay was nationally known for his work as Director of the Paper Users' Standardization Bureau, which Bureau rendered a notable service to the graphic arts in standardizing sizes of printed matter and simplfying qualities and range of stock sizes of printing papers. As chairman of the Standardization Committee of the American Paper and Pulp Association, he achieved great success. Mr. Fay was one of the group that was charged with the responsibility of planning the Direct Mail Advertising Association, and due to his tireless efforts in the period of its development this organization occupies a very significant position today. With the outstanding line of cover and book papers and cardboards made by the A. M. Collins Manufacturing Company, there is no question that Mr. Fay is qualifiedly equipped with an acumen to cope with the situation.

Conforming with the plan of Joseph Parker & Sons Company, of New Haven, America's oldest blotting paper manufacturer, to confine the sales of its products in cities where it is practical to do so, this company has just announced that the sale of Parker Blottings in Philadelphia will be on a triple agency basis, all sales to be handled by the Quaker City Paper Company, Raymond & McNutt Company and Schuylkill Paper Company.

Paper merchants were well represented at the Forty-ninth Annual Outing and Election of officers of The Typothetae of Philadelphia, Inc., which was held at Llanerch Country Club, Tuesday, May 26. Upwards of two hundred were in attendance. Among the appointments announced was that of Harry F. Donahue of Molten Paper Company as representative of the paper trade on the board of directors of the Typothetae for the coming year. Prizes were awarded to three classes of golfers, for those in the putting contest, and for the quoit players, and there was also a number of door prizes. In the golfing events, George W. Weaver, vice-president of Garrett-Buchanan Company came off victorious with second low gross score in class A, and in class B, Paul Craig, Philadelphia representative for Warren Paper Company, won first low gross. In the Kickers Handicap, J. L. Franz of A. Hartung Paper Company was among those awarded a prize.

Satterthwaite-Cobaugh Company, 22nd and Market streets, have just issued a very attractive price list, the cover of which is made from Armada, bound in new plastic style of binding, and containing 100 pages of Parsons Crest Ledger showing a complete line of "Paper for the Graphic Arts" including bonds and ledgers from K. V. P. Howard, Parsons, Carew, L. L. Brown and Byron Weston. Other high lights in mill brands include Esleeck Onion Skins, Standard Blottings, American Writing and District of Columbia covers and text papers, D. M. Bare and Allied book, Dennison gummed, Wheelwright indexes and bristols, Ridgelo blanks, Beveridge Bristols and Riegel tag stocks.

## St. Regis Paper Co. To Increase Wages

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., June 1, 1936—Announcement is made by John P. Burke, president of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers, of a general wage increase of two cents an hour in all plants of the St. Regis Paper Company in Northern New York, effective September 1. Mills affected include branches at Deferiet, Norfolk, Raymondville, Herrings, Oswego, Carthage and a bag factory at Toledo, Ohio. Mr. Burke and Matthew J. Burns, president of the International Brotherhood of Papermakers, left the latter part of this week for Portland, Ore., where negotiations with twenty-four paper companies in Washington, Oregon and Portland will open on June 3. Mr. Burke believes that the unions will obtain higher wages without any great difficulty. In a statement issued this week he reports a surprising change of attitude on the part of most paper manufacturers towards the unions in recent years. Today opposition to the workers joining unions on the part of manufacturers is the exception instead of the rule, he said, while in the old days it was the exceptional employer who took a broad-minded view toward the union. He claims a similar change has taken place relative to the payment of decent wages and that unions have found it easier to get wage increases this year even though only a few of the companies are earning a worth-while profit.

# Un-centrifined paper IS HARDER TO SELL!

Is it *centrifined?* The answer to that question influences many an order. . . . More and more papers are *centrifined.* Those that aren't suffer an increasingly heavy handicap. . . . Modern Bird Centrifining means not only improved saleability but lower cost per ton in mills making a wide variety of papers that need to be clean. . . . Let us show you what centrifined paper may mean to you.

BIRD MACHINE COMPANY
SOUTH WALPOLE · MASSACHUSETTS

## THE BIRD CENTRIFINER

YOU CAN MAKE MORE MONEY WITH NEW BIRD MACHINERY

# Superintendents Announce Preliminary Program for Grand Rapids

With more than six hundred reservations already booked at the Hotel Pantlind and with more than sixty-five of the eighty available spaces reserved in the Civic Auditorium, the Seventeenth Annual Convention of the American Pulp and Paper Mill Superintendents Association and the First Annual Pulp and Paper Superintendents Exposition to be held June 24, 25 and 26 at Grand Rapids, Mich., bids fair to be one of the greatest pulp and paper making gatherings in the history of the industry.

The preliminary program for the convention is as follows:—

**Wednesday June 24**

Registration—Hotel Pantlind.

Exhibits—Civic Auditorium.

Golf—Blythefield Country Club, Buffet Luncheon.

Skeet Shooting—

7:00 P. M.—Joint Dinner, Hotel Pantlind—Golf Prizes—Entertainment—Technicolor Pictures West Michigan Tourist Association—Dancing; Pooles Orchestra. Toastmaster, John Collins, Mayor East Grand Rapids.

**Thursday June 25**

9:30 A. M.—Convention called to order, President Champion presiding.
Invocation
In Memoriam
Address of Welcome
Response
President's Message
Committees.
Meeting turned over to Miami Valley Division—Potpourri of Mill Problems. Bring a problem. Get in the discussion. Don't miss this.

Exhibits—Civic Auditorium.

Luncheon—Hotel Pantlind—Entertainment.

2 P. M.—Group Meetings.

7:00 P. M.—Civic Auditorium—Joint Dinner.
Toastmaster—Carroll Sweet, Grand Rapids.
Speaker—Dr. Merton Rice, Detroit.
Subject—My Country.
Entertainment—Dancing, Pooles Orchestra.

**Friday June 26**

9:30 A. M.—General Session, President Champion presiding.
Speaker—Grover Keeth, Marathon Paper Company.
Subject—Report of Trip to National Safety Conference.
Speaker—W. G. Schlichting, Claridge Fan Company.
Subject—Air Conditioning of Paper and Printing Plants.
One of the important problems in the paper and printing field. All jobbers and printers are cordially invited to this meeting. The paper is being prepared to bring out discussion between printers, jobbers and paper makers. This is another ringer.

Exhibits—Civic Auditorium.

12:30 P. M.—Luncheon, Hotel Pantlind—Entertainment.

2:00 P. M.—Resume General Session.
Business Meeting—Election of Officers.
Speaker—Carl E. Whitney, Counsel, American Pulp and Paper Association.
Subject—The Work of the Public Affairs Committee.
Following Mr. Whitney we will have another speaker of national prominence in the industry, announced later.

Exhibits—Civic Auditorium.

7:00 P. M.—Joint Banquet—Civic Auditorium.
Toastmaster— ....?
Speaker—Charles Milton Newcomb.
Subject—What Are You Afraid Of?
Entertainment—Dancing, Pooles Orchestra.

**Group Meetings, Thursday 2:00 P.M. June 25**

BOOK — FINE PAPER — COATING

Chairmen—J. H. Simpson, Champion Paper and Fibre Company, and H. Annis, Allied Paper Mills Company.
Speaker—H. O. Ehrisman, Foxboro Company—"The Necessity For Moisture Control On Paper Machines."
Speaker—Elbert Milham, Watervliet Paper Company—"Coating and Color Preparation Developments."
Question Box—Let's Go!

BOARD

Chairman—J. H. Brougham, Penn Fibre Board Company.
Speaker—W. L. White, Manhattan Rubber Company—"Paper Machine Rolls From A Rubber Man's Viewpoint." Illustrated.
Speaker—R. D. Kehoe, Paper Industrial Appliance Company—Dealing With Mill Operating Records On Stock Preparation and Production.
Speaker—Cliff Walton, Downingtown Company—Motion Pictures Of Modernized Board Machines.

TISSUE

Chairman—H. H. Harrison, Crystal Tissue Company. Mr. Harrison will lead his own program dealing with pitch problems, etc., on Tissue.

GROUNDWOOD

Chairman—S. D. Wells, Combined Locks Paper Company.
Speaker—Geo. K. Walker, Finch Pruyn Company. Subject later.
Speaker—R. I. Wyne, Roberts-Norton Company—"Mill Performance Of Artificial Pulpstones."
Mr. Wells is trying to arrange for Mr. R. E. Hartman of Mobile Paper Company to talk on Grinding Of Southern Wood.

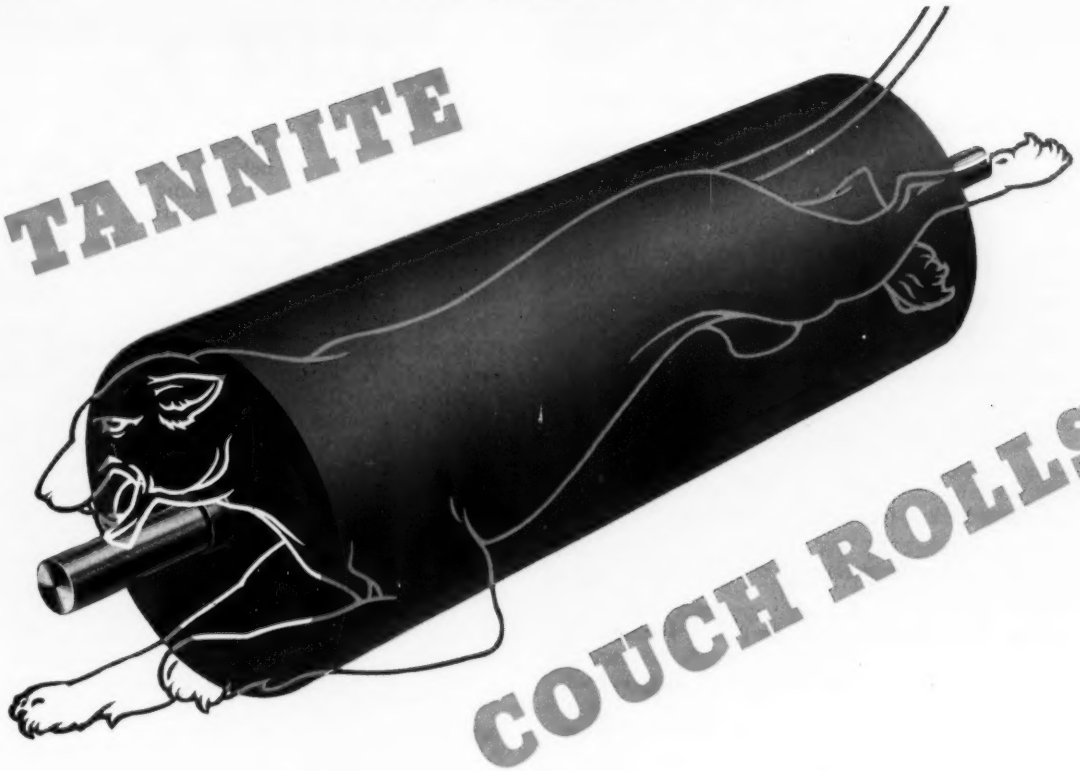
SULPHATE—SODA PULP

Chairman—C. E. Stoke, Tomahawk Paper Company.
Speaker—R. M. Radsch, Appleton Machine Paper Company—"Modern Trends In Kraft Pulp and Paper."
Speaker—G. Enderlein, Mosinee Paper Mills—"What Next?"
Speaker—L. F. Warrick, State Sanitary Engineer—"Waste Utilization and Reduction Of Stream Pollution."

SULPHITE

Chairman—S. E. Tomczak, Flambeau Paper Company.

# TANNITE COUCH ROLLS



AS shrewdly as nature combines bone crushing strength with supple grace, Stowe-Woodward rubber experts have balanced the contrasting qualities of extreme resilience and lasting toughness in TANNITE rubber. While in most couch roll covers, strength is sacrificed for resilience, TANNITE can be made as soft as 350 plastometer and still retain most of its toughness and durability. The result is vastly improved couch roll performance and greatly increased roll life. TANNITE Rolls make a perfect squeeze with a broad nip that distributes the pressure uniformly and safely at all speeds. TANNITE can be applied to couch rolls in a variety of densities and thicknesses and the roll body can be any weight or type that fits your conditions. TANNITE is also used on Lump Breaker Rolls and on Stowe-Woodward FEATHERLITE Couch Rolls. Bulletin 208 "T" gives complete information. Write for it.

*Look for the* TANNITE *color*

TANNITE rubber can be distinguished by its peculiar color—a dull orange-red which is the mark of the special Stowe-Woodward vulcanizing process.

## STOWE-WOODWARD, INC.

**NEWTON UPPER FALLS • MASSACHUSETTS**

NEW YORK OFFICE WOOLWORTH BUILDING

WHITE STAR Rubber Covered Rolls
STONITE Top Press and Smoothing Press Rolls
TANNITE Couch Rolls
All made by the COREWELD Process

Speaker—Dr. T. A. Pascoe, Northwest Paper Company—"New Developments in Bleaching Sulphite Pulp."

Speaker—Guy C. Howard, Marathon Paper Mills—"Waste Sulphite Liquor."

Speaker—H. D. Wells, American Paper and Machine Company—"Continuous Cooking of Sulphite Pulp."

**Ladies**

Wednesday—Mezzanine Hotel Pantlind. Get together and get acquainted—refreshments, music, etc. Joint dinner and dancing—entertainment.

Thursday—Blythefield Country Club. All day—Golf, Swim, Cards. Entertainment-Lunch. Joint Dinner and Dancing—Entertainment with men.

Friday—A. M.—Visit finest furniture showrooms in America. Lunch—Cascade Country Club. P. M.—Visit the private gardens of J. Blodgett. Something to see.

Naturally there will be favors, refreshments, prizes, etc., but no long tiresome bus journeys.

## Paper Mills Installing Machinery

That there is real activity among paper mills this summer preparing their equipment for the future is shown by the announcement made by D. J. Murray Manufacturing Company, Wausau, Wis., manufacturers of pulp and paper mill machinery. The following mills have contracted for new equipment which will be made this summer:

The Champion Paper and Fiber Company for their new mill at Pascadena (Houston) Texas, three Murray-Waern waste heat recovery systems. On this job all pressure parts were furnished by Combustion Engineering Company, New York, who are associated with D. J. Murray Manufacturing Company on this system; three 12 x 50 foot Murray-Branch patented barking drums; three 96 inch Murray chippers, heavy duty, direct connected, synchronous motors, roller bearing.

Crossett Lumber Company, Crossett, Ark., one 12 x 45 foot Murray-Branch patented barking drum; one 96 inch Murray Chipper, heavy duty, direct connected, synchronous motors, roller bearing; one Murray special chip crusher; one 12 plate Murray Flat screen with the Dunbar patented drive.

Detroit Sulphite Paper Company, Detroit, Mich., one 12 x 45 foot Murray-Branch barking drum.

## Link-Belt Power Transmission Catalog

Announcement is made by Link-Belt Company, Chicago, that it has just published a new 208-page catalog No. 1500 devoted exclusively to power transmission equipment.

The new book features the recently anounced line of Link-Belt anti-friction roller bearing units, as well as an entirely new group of streamlined babbitted bearings, several new types of take-ups, and many other new products. Drop hangers, cast iron and pressed steel; pulleys of all types, including steel split construction; gearing, cast and cut tooth types; shafting; shaft couplings, rigid and flexible; safety collars; grease fittings, etc., are also included.

The book contains many illustrations, gives dimensions, weights and list prices, and contains a cross reference index for convenient use of engineers and plant managers.

The new book is offered to anyone interested in power transmission equipment. The reader's request may be addressed to Link-Belt Company, 2410 W. 18th street, Chicago, or to the nearest office of the company.

## Envelope Manufacturers Meet

Envelope manufacturers from all parts of the United States gathered at the Greenbrier, White Sulphur Springs, W. Va., May 14 to 17 for the annual meeting of the Envelope Manufacturers Association of America. Regional and zone meetings were held on Thursday, May 14. On the same day there was a meeting of the retiring Executive Committee of the Association.

The annual meeting of the Association was held on Friday, May 15, and the annual election of the executive committee took place.

The new committee is as follows:

C. R. Stevenson, treasurer; Roland R. Bliss, executive secretary; L. G. Reineman, chairman and president of the association, Buffalo Envelope Company, Buffalo, N. Y.; J. E. Pringle, vice-chairman and vice-president of the association, Brown Paper Goods Company, Chicago, Ill.; H. F. Affelder, Wolf Envelope Company, Cleveland, Ohio; E. E. Bates, Quality Park Envelope Company, St. Paul, Minn.; R. W. Fishburn, Whiting-Patterson Company, Philadelphia, Pa.; George W. Hall, Coast Envelope and Leather Products Company, Los Angeles, Cal.; E. H. Harms, Cupples-Hesse Envelope and Litho. Company, St. Louis, Mo.; E. V. Johnson, United States Envelope Company, Springfield, Mass.; George W. Jones, William C. Jones Envelope Company, New York, N. Y.; John B. Moss, Western States Envelope Company, Milwaukee, Wis.; Carlton W. Smith, American Envelope Company, West Carrollton, Ohio.

Attendance at the general meeting of the association included 52 representatives of 48 envelope manufacturing companies.

Among the interesting and valuable exhibits and reports presented at the meeting were the following:

Labor Survey, giving nationally and by zones average working hours and average weekly and hourly wage rates for 23 classifications of envelope factory and office employees. This survey reflected conditions in January, 1936 and included comparisons with similar data covered in July, 1935.

Graphic charts illustrating the trend of production, sales, and average prices for the envelope industry as a whole, compiled by the Association as a part of its statistical program.

Special statistics on the volume and trend of government stamped envelope sales.

Composite financial statements—balance sheets, operating statements, and composite ratios, representing the consolidated figures of 32 envelope manufacturing companies.

At the first meeting of the newly elected executive committee it was voted to hold the next national meeting of the Association in Chicago, late in the coming fall, on a date to be fixed later, probably in October or November.

The "Family Dinner," as the envelope manufacturers' annual banquet has been called for a generation, was held at the Greenbrier's Casino on Friday night, May 15. Over 60 members and guests were in attendance, many of them accompanied by their wives. In addition to the music for dancing, a duet of genuine back-country fiddlers provided a generous sample of local color.

The traditional annual golf tournament of the Association took place on Saturday and Sunday, May 16 and 17. A majority of members and guests in attendance stayed over to compete.

Probably most of the contestants would deplore their early season form, but the weather was fine and some excellent sunburns were acquired.

# HIGHEST PURITY...

—an all important factor in the manufacture of Diamond Liquid Chlorine and a guarantee to industry of full strength and constant uniformity in all processes.

Whether you use it as an oxidizer or bleaching agent, water purification or sanitation agent—you can always depend on the quality of Diamond Liquid Chlorine to meet the most exacting requirements.

Diamond Liquid Chlorine is readily available in any convenient quantity including 100 and 150 pound cylinders . . . multi-unit tank cars of 15 one-ton containers and single unit cars containing 16 and 30 tons respectively.

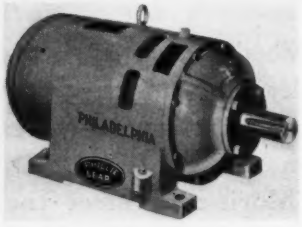
DIAMOND ALKALI CO.
PITTSBURGH, PA. *And Everywhere*

**DIAMOND** *Liquid* **CHLORINE**

## Two New Sizes in the MotoReduceR Line

The new sizes (No. 405 and No. 444) have been added to the standard series of the Totally-Enclosed, Fan-Cooled MotoReduceRs in both the vertical and horizontal types.

With several refinements, the new units follow the same modern "streamline" design adopted two years ago. In addition to a pleasing appearance, this design enables the unit to blend with, and appear to be a part of, the machine upon which it is installed. However, the principal advantages are: a better alignment of the pinions and gears, which reduces noise and wear; conservation of space, and a balanced, rugged assembly that, because it has no overhung parts, will not shake itself to pieces.




Nothing has been sacrificed to accomplish the above advantages. Every part is accessible. When necessary, either the motor or the reduction gears may be removed without disturbing the other.

Gear reduction is of the planetary design. All gears and pinions are made of heat-treated nickel steels. All gears and shafts are mounted on anti-friction bearings. Slow speed shafts are mounted on generously spaced, over-size, tapered roller bearings having a high thrust rating. On the vertical types this construction allows vertical shafts, paddles, impellers, etc., to be hung directly from the driving shafts, thereby eliminating the objectionable step bearings.

The lubrication problem has been handled effectively. Horizontal types employ the splash system. The armature extension, carrying the high speed pinion, is equipped with a specially designed, grooved oil slinger which prevents the oil from reaching the windings. Oil level is easily checked by a plug provided for that purpose.

The vertical types are equipped with the force-feed system. A simple, built-in plunger type of pump is driven from the vertical shaft and insures an adequate supply of oil to the top bearings and gears as well as to those in the lower casing. The design is such that the entire pump may be easily removed for inspection, if desired. Oil flow may be easily checked by means of a glass-covered aperture in the wall of the unit. The unique design of the "dry well" oil pump makes oil-leakage impossible.

Both new types are water-proof and dust-proof. Unit No. 444 has a very efficient double ventilation system provided by hollow inner fins through which air is circulated by the fan.

Additional information, such as thrust ratings, overhung capacities, dimensions and detail drawings are given in Philadelphia Gear Works' Bulletin MR36, available upon request.

## Waldron Gear Type Flexible Couplings

The John Waldron Corporation of New Brunswick, N. J., makers of the famous Francke Flexible Couplings and Replacement Parts are now featuring a notable addition to the coupling line, namely the Waldron Gear Type Flexible Couplings. They fundamentally include two distinct designs—the Medium Duty and the Torque Ring.

The Medium Duty type incorporates the conventional double engagement principle. It is designed to function on prime or second movers on all classes of equipment as well as simply transmitting power in the small bore range of 1 inch to 3½ inches inclusive.

The Torque Ring type employs the patented principle of quadruple engagement. It is rugged, close coupled, finished all over and designed for the heavy duty slow speed field. Maximum bores of stock sizes range from 4 inches to 12 inches inclusive.

These couplings take care of angular and direct off-set misalingment and a combination of the two, as well as provide for free and independent lateral float of the connected shafts. The misalignment capacity of the Waldron Gear Coupling is far in excess of permissible operating conditions.

The Waldron Gear Couplings are made of the highest grade forgings throughout, except in the larger sizes where steel castings are used for the hub and sleeve only. They are self contained, being dust and moisture proof and affording positive lubrication. They will transmit their rated h. p. at high or low speeds or in reverse with high and equal efficiency.

A very attractive book is available to interested executives without obligation which provides complete diagrams, ratings and full description of these various couplings.

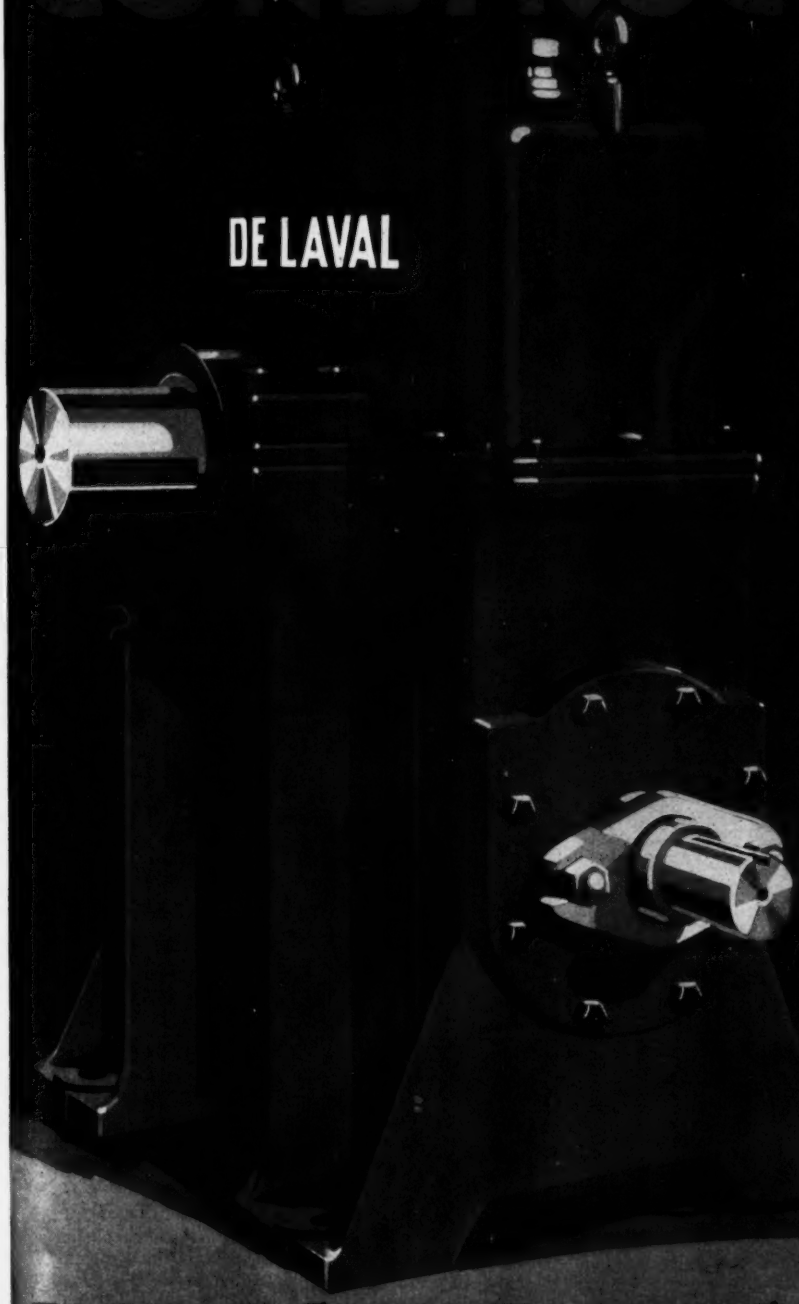
## Finch, Pruyn & Co. Get Capacity Orders

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., June 1, 1936—In an address last week before prominent business men of this city it was pointed out by Frederick B. Chapman, vice-president and general manager of Finch, Pruyn & Co., that the company already has enough orders to operate its paper mill at full capacity for the remainder of the year. The company was originally a partnership formed about 1865 by J. W. Finch, D. J. Finch and Samuel Pruyn and they purchased the Glens Falls company formed about 1835, according to the speaker. In 1885 D. J. Finch withdrew from the company and the remaining partners continued to operate four separate companies. In 1904, he continued, these companies were merged into a corporation known as Finch, Pruyn & Co., Inc., with the following officers: George R. Finch, president; Maurice Hoopes, vice-president and secretary; Howard H. Pruyn, treasurer. In 1909 Maurice Hoopes was elected president and the late Louis F. Hyde, vice-president.

Mr. Chapman stated that ground for the paper mill was broken in 1904. In 1906 with two paper machines operating 15,718 tons of paper and 13,506 tons of ground wood were produced. A third machine was installed in 1910. Paper production continued about the same until 1919 when improvements were added and production increased until it reached about 44,000 tons. Except for the years 1932 and 1933 when the consumption of newsprint was at the lowest point of the depression the mill has operated to capacity, with 43,679 tons of paper and 39,665 tons of ground wood pulp produced in 1935, Mr. Chapman said. He said the price of newsprint from 1906 to 1910 was approximately $40 per ton delivered, rising to a peak of $135 per ton in 1920 and declining then to $40 a ton in 1935. The company owns upwards of 200,000 acres of woodlands in the Adirondacks and the payroll in that section is large annually.

# DESIGN AND CONSTRUCTION




explain the success of the DE LAVAL WORM GEARS.

The case is strong and heavily ribbed, minimizing deflection under load and holding the working parts in rigid alignment.

It serves as the oil reservoir and provides ample surface for heat radiation, thus limiting the temperature of the oil and preserving its lubricating qualities.

The arrangement of the casing facilitates renewal of the lubricant and inspection of parts.

Cases, bearings and shafts are made to limit gages and are strictly interchangeable.

**De Laval Steam Turbine Co., Trenton, N.J.**

## H. P. Carruth to Manage Brown Co.

H. P. Carruth, president of Dill & Collins, Inc., and vice president of the Mead Corporation, has been appointed general manager of the Brown Company, Berlin, N. H. Mr. Carruth is widely experienced in the manufacture of pulp and paper and his numerous friends in the industry feel sure that he will successfully fill this important position.

Henry Pope Carruth was born March 25, 1884, at Boston, Mass. He received his early schooling in and near Boston, after which he studied at The Massachusetts Institute of Technology.

After leaving college he became affiliated with the American Writing Paper Company of Holyoke, Mass., where he was employed as chief chemist for a number of years immediately prior to his becoming associated with the Mead Pulp and Paper Comany organization in April, 1918, as assistant to the president.

In the Spring of 1919, Mr. Carruth was made general manager of the company's Chillicothe plant.

Mr. Carruth was a chartered member of the Technical Association of the Pulp and Paper Industry and served as the third president of this organization for two years.

In 1923 Mr. Carruth was made a director of the Mead Pulp and Paper Company, and in January 1929, was elected to the office of vice president, along with his duties as general manager of the various plants making up the company.

With the formation of The Mead Corporation, in 1930, Mr. Carruth became executive vice president, which position he retained until 1935 when it was decided to eliminate the title of executive vice president from the company's organization, whereupon he became vice president, which position he now occupies.

In 1933 he became a director of Dill & Collins Inc , and in 1934 its president.

For the past two years he has been a trustee of the Institute of Paper Chemistry at Appleton, Wis.

## Study of Pulp Industry to Continue

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 3, 1936—Through an erroneous story printed in one of the weekly papers, some groups in the paper industry seem to believe that the United States Tariff Commission has discontinued its study of the pulp industry. This is not correct.

Recently the Commission dismissed a number of cases because of a provision in the Trade Agreement Law that the Commission shall not investigate, under section 336 of the Tariff Act, any commodities contained in foreign trade agreements already made or in contemplation. However, it will be recalled that the pulp investigation is not being made under section 336 of the Act and it has not been discontinued.

## New Tensilastic Book

The American Wringer Company, Woonsocket, R. I., manufacturers of rubber rolls has recently issued a book entitled "Tensilastic—Super Rubber Roll Covering."

This book tells of the value of the Tensilastic rubber covering and the reasons for the exceptional Tensilastic performance records. It also very clearly explains, with graphs, density, tensile, ageing, etc. It is a very fine treatise on rubber roll construction and worth while reading.

## Closes Successful Year with Baldwin

W. F. Vallely, of the Baldwin Paper Company, Inc., 233-45 Spring street, New York was the recipient of many congratulations from his friends and associates, and a handsome set of golf clubs from his company on the completion of his first year as vice-president in charge of sales.

After the ceremonies were over, and highly elated over the happy sequence of events, Val made a quick "get-

W. F. VALLELY

away" to the Old Greenwich Golf Club, of which he is a member and officer, where he skidded around a wet course in 78.

Replying to the reporter's inevitable question, "How's business?", Val replied "during my first year with Baldwin I sold more paper than in any previous year since I have been in the paper business—and I'm going to do much better this year."

## Japan Imports More Pulp From U. S.

Imports of wood pulp into Japan during January totaled 31,208 short tons, of which amount 17,339 tons represented pulp imported for paper making and 13,869 tons pulp imported for the manufacture of rayon. Compared with the corresponding month last year these figures show a decided increase in arrivals of paper-making pulps and a moderate increase in pulp for the manufacture of rayon. The United States supplied 69 per cent of the January, 1936 imports as against 38 per cent last year. The increase in American participation in this market was accompanied by smaller receipts from Norway, Sweden and Canada. It is expected that February imports will reveal a stronger position in Canadian pulp due to the removal on January 1, 1936, of the 50 per cent surtax of the regular duty, applied since July 20, 1935, on certain Canadian products.

## A New Glue Mixer

The Merritt Engineering and Sales Company, Inc., Lockport, N. Y., announces a new well engineered and well constructed small motor driven glue mixer for cold mixing in unjacketed containers. This new mixer is built in three sizes of 2½, 5 and 10 gallons capacity. It is self-contained and portable. The unit consists of three separate elements, a motor driven head, a double action agitator and a portable container or can. The container is unattached and merely rests in position on the base of the machine while restrained against rotation. The Merritt Engineering and Sales Company has just issued a bulletin on this new mixer which may be had free on application.

## Production Ratio Report

These statistics are based upon paper production reports to the American Paper and Pulp Association.

COMPARATIVE MONTHLY SUMMARIES

| Month | 1936 | 1935 | 1934 |
|---|---|---|---|
| January | 76.1% | 65.8% | ..... |
| February | 77.9% | 70.0% | ..... |
| March | 76.0% | 70.5% | ..... |
| April | 82.4% | 70.0% | ..... |
| May | ..... | 69.4% | ..... |
| June | ..... | 72.3% | ..... |
| July (b) | ..... | 67.8% | ..... |
| August | ..... | 70.9% | ..... |
| September (c) | ..... | 75.0% | 59.4% |
| October | ..... | 75.6% | 64.7% |
| November | ..... | 75.3% | 61.7% |
| December (a) | ..... | 74.3% | 62.1% |
| Year | ..... | 71.2% | ..... |

COMPARATIVE WEEKLY SUMMARIES

| CURRENT WEEKS, 1936 | | CORRESPONDING WEEKS, 1935 | |
|---|---|---|---|
| *May 9 | 81.7% | May 11 | 69.1% |
| *May 16 | 82.3% | May 18 | 70.7% |
| *May 23 | 81.7% | May 25 | 68.4% |

The following statistics show the number of mills reporting by ratio groups:

| Ratio Limits | Number of Mills Reporting, Current Weeks: May 9, 1936 | May 16, 1936 | May 23, 1936 |
|---|---|---|---|
| 0% to 50% | 74 | 71 | 55 |
| 51% to 100% | 258 | 248 | 186 |
| Total Mills Reporting | 332 | 319 | 241 |

* Subject to revision until all reports are received.
These data exclude (a)—Christmas Day, (b)—Fourth of July, (c)—Labor Day.

### Paperboard Operating Ratios

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours," were as follows:

| 1934 | 1935 | 1935 | 1935 | 1936 |
|---|---|---|---|---|
| Sept. .. 62% | Jan. .. 61% | May .. 61% | Sept. . 69% | Jan. .. 61% |
| Oct. ... 63% | Feb. .. 67% | June . 65% | Oct. . 76% | Feb. .. 67% |
| Nov. ... 56% | Mar. . 67% | July .. 59% | Nov. . 70% | Mar. . 68% |
| Dec. (a) 53% | Apr. .. 61% | Aug. . 65% | Dec. .. 60% | Apr. .. 70% |

Week ending May 9, 1936—67%
Week ending May 16, 1936—67%
Week ending May 23, 1936—67%

## German Paper Industry More Active

The upward trend noticeable in the German paper industry during 1935 continued during the early months of the current year, according to a recent report from W. S. Jesien, American Consulate General, Frankfort. After the usual depression of the post-holiday period, business picked up rapidly, attaining new high points of activity. In some divisions of the industry the usual seasonal slump failed to take place. An outstanding example is the manufacture of kraft paper and paper bags, which showed a 20 per cent higher rate of activity than in the corresponding period in 1935. Production of wrapping paper in general also showed a vigorous upward trend. Of great importance to the continued activity in this branch of the paper industry was the unusually mild winter which enabled road building and the construction of dwellings to be carried on almost without interruption. Cement sacks, kraft wrapping, tar roofing, hanging paper, building papers and felts, all derived benefit from this activity in the building industry. The demand and production of printing and writing papers was distinctly better than at this period in 1935.

## C. D. Enemark Goes with Marvellum Co.

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., June 2, 1936—Carroll D. Enemark of Springfield, formerly of South Hadley, has joined the Marvellum Company of this city as chief chemist. He was formerly connected with the United Manufacturers Company of Springfield and the Hampden Glazed Paper and Card Company of this city.

## Taylor Motosteel Evenaction Valves

Again, the old gives way to the new. The completely redesigned line of Taylor Motosteel Diaphragm Valve Motors is the first to employ an all-steel welded construction. This new construction is lighter in weight, stronger, and has greater resistance to shock and strains than the cast iron type. Other innovations include:

A smoother, quicker-acting, and more powerful valve motor is obtained by a larger molded diaphragm of advanced design. Formed impressions in the top plate which provide freer access of air pressure to the diaphragm in starting, thus insuring a greater effective initial force. And a longer and larger diameter spring gives greater initial compression, less hysteresis, and more accurate response. A ball-bearing, roller-bearing stem guide insures a free rolling action throughout the entire stroke. Spring and spring adjusting nut, as well as other moving parts, are fully enclosed, yet are readily accessible for adjustment or maintenance by removing the side plates. Valve position indicator readily establishes the valve opening.

All parts are specially treated to resist corrosion.

Details may be obtained by writing to the Taylor Instrument Companies, Rochester, N. Y.

## U. S. Leading Supplier of Paper to China

WASHINGTON, D. C., May 13—The United States was the leading supplier of paper and woodpulp to China during 1935, a report to the Commerce Department from its Shanghai office shows.

Total imports into China under this classification in 1935 amounted to 25,748,600 gold units ($17,406,000), an increase of 18 per cent over 1934. The United States accounted for 4,526,000 gold units ($3,060,000), or 18 per cent of the total, followed by Japan with 15 per cent; Germany, 14 per cent; and Canada, 13 per cent. Imports from the United States during 1935 increased 66 per cent over 1934; those from Germany, 65 per cent; and from Canada, 47 per cent. Imports from Japan, Sweden and Norway, on the other hand, registered only minor increases, the report states.

China's chief imports of United States paper products in order of importance comprise paperware, newsprint, drawing, document, bank-note and bond paper. Items of lesser importance are cards, bristol board, blotting paper, fancy cover papers and printing paper. In a general way, it is pointed out, American paper products hold first place in China due to ability to supply quality goods in a comparatively short space of time. A substantial share of American business consists of special lines and products particularly suited to the Chinese market.

Imports of all kinds of paper into China in the first two months of the current year amounted to 2,715,000 gold units ($1,824,000), a decrease of 35 per cent compared with the corresponding period of 1935. Germany was the chief supplier, accounting for 28 per cent while Japan and the United States each supplied 16 per cent, according to the Commerce Department.

PAPER TRADE JOURNAL
ESTABLISHED 1872
Reg. U. S. Pat. Off.
15 West 47th St., New York, N. Y.

Henry J. Berger
*Editor*

Ronald G. Macdonald
*Editor Technical Section*

Herbert J. Laughton
*Associate Editor*

Thomas J. Burke, C. A.
*Editor Cost Section*

Lynne M. Lamm
*Washington Correspondent*

Price, Per Copy, 10 Cents
Canada, $7.50; after Jan. 1, 1936, $6.00.

United States, Per Annum, $4.00
Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. CII New York, June 4, 1936 No. 23

## FUTURE MEETINGS

TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY, Summer International Meeting in Canada, August 3 to 7, Montreal, Quebec, The Saguenay. Details may be obtained from the secretary, R. G. Macdonald, 122 East 42nd street, New York.

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—fourth Friday of each month at the Engineers Club, Philadelphia, Pa.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS' ASSOCIATION, Annual convention, Grand Rapids, Mich., June 24-26, 1936.

## RESEARCH FUND MADE AVAILABLE TO CONTAINER COMMITTEE OF TAPPI

The new committee on educational cooperation of the Technical Association of the Pulp and Paper Industry has just approved of a grant of $200 to the container committee for the construction and thorough testing of a new rigidity tester for measuring the ultimate breakdown strength of paper board and container material. According to Pierre Drewsen, chairman of the container committee, the need for a satisfactory instrument for crush tests in mills making corrugated paper and liner board for control purposes is urgent. An instrument which will serve as a reference standard in the paperboard industry is also required. Several laboratories are cooperating in the testing of the new instrument when it is made available in the near future. The container committee plans to publish the results of these tests on the rigidity tester at the next annual TAPPI meeting.

In order to promote the activities of the various committees comprising the TAPPI organization the executive committee has appropriated the sum of three thousand dollars which can be drawn upon to finance important committee projects. To administer this fund the committee on educational cooperation was appointed. This committee includes all divisional chairmen with the vice-president of the association and is headed by John L. Parsons of the Hammermill Paper Company, Erie, Pa. Committees requiring financial assistance in their work may make a request for funds through their respective divisional chairmen who will in turn submit the request to the committee on educational cooperation for approval.

The intelligent use of these research funds by TAPPI committees should serve to stimulate committee activities and make available to the industry valuable information within a much shorter time than in the past. For instance, several months ago the mechanical pulping committee, headed by M. P. Chaplin, decided to initiate a study of the efficiency of refiners for mechanical pulp at the University of Maine and for that purpose a fractionating screen was required. A request was sent to the committee on educational cooperation for the fund necessary to purchase a rebuilt screen. Thus a research fund has facilitated the work of the mechanical pulping committee by making possible a study which otherwise would probably be delayed on account of the lack of adequate financial support.

The fundamental research committee, of which Dr. H. F. Lewis is chairman, felt that a study of the possible existence and nature of the pulp fiber membranes to settle definitely the several theories current at the present time would prove to be of considerable significance in pulping and bleaching processes. In order to carry out this study rather expensive equipment and a considerable quantity of other materials would be required, and so a request was made and approved for a research grant to assist in the purchase of these materials and the carrying out of the work at the Institute of Paper Chemistry. Undoubtedly other TAPPI committees have studies in progress which could be materially hastened by the use of a research fund. Application for funds should be made through the proper Divisional chairman.

Not only does the committee on educational cooperation aid in the distribution of research funds but also when desired it will act in an advisory capacity to any committee in the furtherance of its activities where these funds are used. For example, a committee may have an important study planned and desire information as to the place where it could most effectively be carried out. The committee on educational cooperation will be glad to cooperate with any committee in order to facilitate the work.

Following the allocation of research funds to TAPPI committees the committee on educational cooperation maintains contact with the respective committees until the results of the investigations are available to the membership of the Association. It is expected that all association committees will appreciate the opportunities for greater usefulness through the use of these research funds appropriated especially for committee use by the Executive Committee and that requests for funds will increase during the coming year.

## SCARCITY OF PULP ABROAD INDICATED

Phillips A. Hayward, chief of the Forest Products Division of the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce has written Charles W. Boyce, executive secretary of the American Paper and Pulp Association as follows:

"We have just received from the Office of the Commercial Attache in Berlin the following report on the shortage of sulphite pulp in Europe:

"'The representative of an important American paper company, recently in Berlin, after a tour of the Scandinavian countries, Finland, the Baltic States, Poland and Austria, reports that sulphite pulp is practically unobtainable in Europe. Supplies are apparently exhausted, current production contracted for, and the mills are unwilling to commit themselves for the future. Current prices are said to be unprofitable for Swedish producers but Finnish mills, primarily because of cheaper labor, could operate profitably at considerably lower prices. Of European producers, the Finns are apparently in the best position. The Czechoslovak mills are concerned over possible difficulties in obtaining wood pulp, most of which is imported.'

"It occurred to me that this information might prove of interest to you."

In sending out this letter, Mr. Boyce states: "In general, this report is corroborated by reports on the foreign pulp situation from many other sources, except as regards the present costs of the Swedish and Finnish mills, which would appear to be considerably more comparable than is indicated by the letter quoted above.

"From information which we have received from various other foreign and domestic sources, and which are believed to be reliable, it would seem that, barring some unforeseen complications or an unanticipated pronounced slump in general business conditions, the pulp market, both here and abroad, might be expected to continue strong for some time to come."

## Senior Paper Technologist Wanted

The U. S. Civil Service Commission has announced a competitive examination for a senior paper technologist (salary $4,600 a year) in the Forest Service, Department of Agriculture.

Applications are obtainable from the Commission, Washington, D. C. and must be filed not later than June 8, 1936. The candidate must be a United States citizen who has completed a full four year course in a college of recognized standing with major work in chemical engineering, chemistry or mechanical engineering. He must also have had six years of experience subsequent to graduation in scientific industrial work in paper technology, including three years of investigative and development nature on fourdrinier or cylinder machines, in the manufacture of several different grades of paper. The successful candidate will be assigned to the staff of the Forest Products Laboratory, Madison, Wis.

## John Carroll Goes To Harrisville Mill

[FROM OUR REGULAR CORRESPONDENT]

HARRISVILLE, N. Y., June 1, 1936—The appointment of John Carroll, of Springfield, Mass., as superintendent of the Harrisville Paper Corporation, subsidiary of the St. Regis Paper Company, is announced here and he will take over his new duties immediately. The position has been vacant since the recent death of Thomas J. Legge in November. Mr. Carroll is widely experienced in the paper business and is well qualified to take over his new position.

## Paper in Trade Agreement with France

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 3, 1936—The Forest Products Division of the Department of Commerce has made a detailed analysis of important concessions granted to the United States on paper and paper products in its trade agreement with France, brief mention of which has already been made in these columns. In this connection the Division says:

"A number of valuable concessions have been obtained for American paper exports in the trade agreement signed between the United States and France on May 6, 1936, and which becomes effective June 15, 1936.

"As a result of the granting of most-favored-foreign-nation treatment to United States products, a large number of papers and boards which have hitherto been subject to intermediate rates of duty will benefit by being subject to the minimum rates. Moreover, assurance against an increase in the present minimum rate has been obtained for vulcanized fiber, which is an important item in our paper exports to France. In addition to a reduction in tariff rates, the United States quota for rough boards has been more than doubled. A similar increase has been made in the United States quota for a wide variety of papers falling under Item 461-G.

"The import turnover tax, which has hitherto been 6 per cent of the duty paid value on practically all paper items when imported from the United States, is reduced to 2 per cent of such value.

"The trade which will be affected by the provisions of the new trade agreement insofar as our exports of paper and paper products to France are concerned reached a total of more than $800,000 in 1929. In the following year it dropped to some $600,000 and during the past five years has varied between $400,000 and $500,000 annually. In addition to papers and boards, during the past three years we have shipped between $500,000 and $600,000 worth of wood pulp (principally sulphite) annually to France.

## Monel Metal in Pulp and Paper Mills

The International Nickel Company has issued a very interesting bulletin entitled "Monel Metal in Pulp and Paper Mills." In the introduction it is stated that "the place of Monel Metal and nickel in pulp and paper mills is in equipment that requires materials which are strong, wear and abrasion resistant and at the same time capable of withstanding corrosion by alkaline pulps and stocks, spent sulphite pulp liquors, and acids containing alum or small quantities of chlorine or hydrochloric acid. Also in uses where resistance to strong caustic soda, sulphuric acid, salt water or polluted waters are required.

"This bulletin describes the advantages of Monel Metal and nickel in applications where these metals have found general acceptance in the treatment of stock after pulping, in paper machines, caustic recovery and pumps. It gives service records reported by a variety of mills. Data are included on the engineering properties of Monel Metal, nickel and nickel-clad steel. Also the bulletin gives the properties of K Monel, 'H' Monel Metal and 'S' Monel Metal which are new products having exceptional mechanical properties as well as the corrosion resistance of regular Monel Metal."

Copies of this bulletin may be obtained by addressing the International Nickel Company, 67 Wall street, New York, N. Y.

SEE CYANAMID FOR

# CHINA CLAYS

If you're looking for a good, dependable source of supply for China Clay —get in touch with Cyanamid. They'll give you high quality Domestic Air-Floated, Water Washed and Coating Clays, and they also have a complete line of English Coating and Filler Clays. Cyanamid's are products consistently good—low in grit content and always of a bright color. You can expect quick delivery from their regular chartered service to the principal Atlantic ports, too.

**DOMESTIC CLAYS**
**bulk or paper bags**

**ENGLISH CHINA CLAYS**
**bulk, bags, casks**

**American Cyanamid & Chemical Corporation**
30 ROCKEFELLER PLAZA • NEW YORK, N. Y.

*We hope we'll see you at the 17th Annual Convention of the American Pulp and Paper Mill Superintendents' Ass'n, to be held in Grand Rapids, Mich., June 24-26.*

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

# What Do We Know About Bleaching?*

By John D. Rue[1]

This is a question that has bothered me for a number of years and the more we learn the greater seems to be the vast field of the unknown or of the only very imperfectly known.

That which we have been able to learn has served us well as an industry in the development of improved processes, of greater accuracy and facility in operating control and of products having better and more dependable properties.

That which still awaits exploration constitutes a challenge to the technical men of the industry and the results of those investigations may become determining factors in placing and keeping important branches of the industry on a profitable basis of operation.

It seems appropriate, therefore, that we should take an account of stock and attempt even a brief appraisal of the present state of our knowledge of this subject.

### What Do We Include in the Term "Bleaching" as Applied To Pulp and Paper?

Strictly speaking bleaching is a whitening of the fibers. But broadly speaking it includes also a generous amount of purification which may contribute to the whitening but which contributes also to a more or less drastic modification of the properties of the resultant papers.

Bleaching as applied to textile fibers is generally a complicated series of operations which may include alkaline treatments at elevated temperature, acid treatments as well as oxidation with hypochlorite, $H_2O_2$, $Na_2O_2$, etc. all interspersed with thorough washings. For the paper maker these extensive operations are still considered too costly and the cost of the raw materials is too high to justify bleaching them for paper making uses. For the most part cotton and linen come into the pulp field only as waste from the textile field, in which case the major portion of the bleaching may have been already done. Very often the waste contains dyes which must be discharged or products of use which must be removed.

The dyer's aim is to produce colors that are fast under a wide variety of conditions. The textile waste becomes, therefore, increasingly a problem as a source of white pulp of the high strength characteristic of the component fibers. Some dyes are almost beyond bleaching to a good white without drastic impairment of strength and toughness. There is a real need for simple and inexpensive methods of discharging the dyes in textile waste. A closer cooperation between the textile dyer and the pulp maker should result in greater progress in this field. In any case bleaching in this field must include something more than a simple oxidation. Even direct chlorination seems to have little to offer in such cases.

Bleaching as applied to old paper stock refers primarily to the processes of oxidation, usually with calcium hypochlorite. The bleaching, however, is dependent on the previous treatment of the old papers in the processes of deinking. Here again the problems arise of discharging a mixture of dyes of greater or less degree of fastness. For the most part, however, the strength of the de-inked and bleached paper stock is not of so vital importance as is the strength of rag stock and more drastic oxidation is permissible.

Manila and jute stocks, if bleached at all, are used in the semi-white shades. Can these pulps be bleached to full white without impairing very seriously those properties which are characteristic of manila and jute and which give these fibers a competitive place in the industry? Thus far the answer is no, but that answer may not be a correct one.

To the manufacturers of chemical wood pulps "cooking" and "bleaching" have been two very distinct operations. But recent practices are tending to break down the sharpness of this distinction. The production of a fine white product from wood has become a complex series of operations which include cooking but it is developing that the cooking can be depended on less than heretofore for the removal of impurities. In fact the major function of the cooking may in some cases prove to be merely the reduction of the wood to a fibrous mass that can be suspended in water and handled with pumps and other equipment as a fluid. The ultimate fibers, thus completely segregated from each other, form a mass that lends itself to rapid incorporation of chemicals, whereas any treatment of raw or only partially disintegrated chips involves a relatively slow diffusion of the chemicals through thick layers of solid material.

Under these circumstances direct chlorination enters the field as a practical means of continuing the purification of the fibers by the very rapid removal of lignous matter at room temperatures. Chlorine under these conditions reacts with the lignin with a degree of selectivity not found in digestion by means of the conventional chemicals at elevated temperatures and pressures. The product is a

---

* Presented at the meeting of the Delaware Valley Section of the Technical Association of the Pulp and Paper Industry, Philadelphia, Pa., February 28, 1936.

[1] Chemical Engineer, Hooker Electrochemical Co., Niagara Falls, N. Y.

fiber which can be carried to a relatively high degree of purity without causing detrimental attack to any serious extent on the basic fibrous substance. The mild treatment of the chlorinated product with oxidants sufficient to produce a white color, is no longer detrimental to the strength of the fiber. It may even be found desirable to subject the chlorinated product to an alkaline extraction more or less drastic.

Now where does bleaching begin and where does purification end? Cooking, chlorination, caustic extraction, oxidation. The last is usually called bleaching but chlorination may be so conducted as to result in lighter color. The caustic extraction, especially in the case of alkaline pulps, results in the partial removal of dark colored dyes. The line of distinction has been broken down.

What we now need to know to a far greater degree than we do at present is (a) how far can we go in substituting chlorination for cooking? (b) What are the effects on the quality of the ultimate product as greater proportions of the purifying are done by the chlorine? (c) What is the economic balance between cooking and chlorination? Some of these questions were studied in the case of straw under conditions which existed in Europe after the World War. They have not been studied with sufficient care in the case of wood.

Chlorination has been successfully applied to standard chemical wood pulps with the result that sulphite pulps can be brought to full white with a saving of from 15 to 35 per cent of the chlorine, as compared with older processes and pulps of improved color and strength can be obtained.

With the aid of chlorination commercial soda pulps have recently been brought to a degree of whiteness hitherto almost unknown in the industry.

With the aid of chlorination kraft pulps are being bleached practically to the shades of bleached sulphite and the white products exhibit strength properties far in excess even of the Mitscherlich sulphites.

But how should the cooking be done—be it sulphite, soda or kraft—so as to adapt the pulp most advantageously to these newer combinations of subsequent treatment—chlorination, hypochlorite bleaching, etc.—all of which we crudely refer to as bleaching?

Here is a field very little cultivated and yet one containing vast possibilities in the way of new and improved products as well as of greater operating economies.

### What of Materials for Constructing Equipment?

Until a few years ago the materials used for bleaching equipment were rather limited. Bleaching vessels were made of concrete and for very fine work were and still are lined with tile. The bleach liquor was made in concrete tanks and occasionally in steel tanks. Bleach liquor lines if not black iron, were cast iron. Stock piping was iron or wood. Agitators were wood and steel. Even with ordinary bleach liquor iron rust was a fruitful source of dirt specks in the paper. Chlorination was impossible with these materials of construction.

Recent years have produced, however, a wide variety of materials which are relatively, at least, resistant to wet chlorine and acids and also to dilute alkalis. Silicon steel alloys are far more resistant than even cast iron to the corrosive action of dilute chlorine solutions. Some of the Cr-Ni-Mo alloys are even more resistant and far less brittle but more costly than the Si compounds. Rubber linings of suitable composition are now available at reasonable cost and can be successfully attached to metal. Rubber lined steels have the structural strength of steel and display exceptional resistance to the action of acids, alkalis, wet chlorine and bleach liquor. They form excellent equipment for chlorinators. Rubber lined piping and valves are excellent for handling bleach liquor in the interest of low upkeep and freedom from dirt specks.

Paints containing chlorinated rubber as the base ingredient form inexpensive and fairly durable coatings for equipment that is to handle stock in process of bleaching or of mild chlorination. They are well adapted to concrete surfaces and in such cases reduce the escape of grit from the concrete and reduce the surface friction.

Corrosion resistant cements extend the applicability of stoneware and tile equipment.

Improved construction methods for copper are bringing this material into more extensive use for piping to handle the washed pulps. Freedom from iron rust and slime contribute toward cleaner pulps.

Improved construction of washing equipment has facilitated the protection of such equipment with rubber coatings so that chlorinated stock can be washed without first neutralizing the free acids.

There is, however, still much to be done along these lines both toward the improvement of corrosion resistance and also in the interest of lower costs of installation or application.

### How To Measure the Results of Bleaching?

There are two yardsticks which may be applied to the results of bleaching, (1) the cost of the operation and (2) the quality of the product.

The cost will vary depending on kind and quality of the product desired. A product of high value in use may warrant costly methods of bleaching provided they are essential to superior quality. Moreover, costly methods of bleaching may be justified when the application of such methods permits the use of low cost raw materials.

The yardstick of cost must, therefore, be applied not only with due regard to the cost of the bleached product but also to the relation of that cost to the use value of the product.

The yardstick of quality can, obviously, be best applied to the finished paper. The standard of measure is, of course, the use requirements which the pulp was made to meet. There are many tests which are applied to the intermediate pulp products and these tests are designed to give advance information as to the probable degree to which the finished paper is likely to meet use requirements. For example, we have the strength tests (Mullen, tear, fold, tensile) which are applied to the raw pulps and to the pulps in various stages of hydration. There is the freeness test. Also there are such chemical tests as lignin and alpha content, copper number, copper ammonia or viscose viscosity. There are opacity and absorbency tests.

Most of these tests are empirical at best. Technical organizations and some of the recognized pulp and paper research laboratories of this and other countries have adopted standards of procedure for these tests, but there is still a lack of conformity throughout the industry. The excellent progress made during the past few years should be but the forerunner of much greater strides toward uniformity of standard procedure.

Then there is the very great and difficult problem of calibrating the test results against the end products. This is a problem which is bound to be individual with each mill. The test results may serve not only as an indication of probable end properties but also as a guide to uniformity of operation in the manufacturing processes. Here again the problem is individual with each mill. The test results are valuable in some cases as historical records. They are

of much greater value if they can be obtained in time to serve as operating guides.

Wood pulp fibers are sufficiently short so that laboratory sheets of paper can be made and the strength of these papers determined. The problem here is one of standardizing the methods of hydrating the fibers and of preparing the sheets for test. These problems are still very real.

Rag stock, however, offers other problems. The fibers are too long to be used directly in sheet making. No satisfactory method has been developed, so far as I am aware, to reduce the fiber lengths in a satisfactorily reproducible manner. Strength tests based on sheet formation are not, then applicable. For that reason the rag stock user relies far more, than does the wood pulp user, on the copper number and on the viscosity of the copper $NH_3$ solution. Both of these tests are sensitive to excessive attack of cellulose by oxidation bleaching agents.

**How To Know the Amount of Bleaching Agent to Add?**

Here again the testing methods are largely empirical and universal standards of procedure are lacking.

The testing methods may be conveniently divided into three classes. (A) Those which duplicate roughly and on a small scale the actual mill type of bleaching. This method is time consuming and frequently requires several tests before the answer can be reached. Also the results vary with the shade of pulp desired. (B) Those which measure the amount of $KMnO_4$ which is consumed under predetermined conditions of test. For a given set of test conditions and for a given type of pulp bleached under a given set of mill conditions to a given standard of color a curve can be constructed relating the $KMnO_4$ consumption to the bleach required in mill practice. Care must be exercised, however, in using the curve if pulps of different origin are being evaluated. That is true even though all are sulphites. For kraft an entirely different curve is required. (C) Those which determine the consumption of chlorine gas under definite but empirical conditions of test. These results must also be calibrated against mill bleaching practice.

In some cases accuracy is required for historical purposes. In other cases speed of result is essential in operating control. The empirical conditions of laboratory tests have been greatly modified by various users of the tests so as to meet their local conditions.

A knowledge of the bleach requirement of a pulp is very important to accurate operating control. There is still a wide field of study here if simple, dependable, standardized methods of test are to be developed and universally used.

**What Are the Most Favorable Conditions for Hypochlorite Bleaching?**

1. TEMPERATURE.—Temperature is one of the major factors in controlling rate of bleaching. As in most chemical reactions the rate of bleaching is about doubled for each rise of 10° C. Temperature may have, however, marked effect on the quality of the bleached product. The question is what are the limiting temperatures permissible? The answer varies with the nature of the pulp, with the density and with the pH of the stock during bleaching. Alkaline pulps and pulps of low density will safely permit higher temperatures than pulps of high density and those in which the pH is low or becomes low during bleaching. Pulps are bleached commercially at temperatures as high as 50° C. For high density pulps i. e. 15 per cent and over the temperature should not exceed about 27° C. The higher the density and the greater the rise in temperature due to the heat of reaction. Unfortunately an increase in temperature is frequently resorted to in order to increase the output of a given installation of bleaching facilities. Where low cost is of greater importance than high quality this practice is justified.

2. PH.—Very little has been definitely known about the pH of bleaching pulps. It has been generally known, of course, that bleach liquor behaves quite differently in acid than in alkaline media. When strongly acid the reaction tends strongly toward chlorination but when strongly alkaline the major reaction is one of oxidation. Under neutral conditions the reaction may be either chlorination or oxidation or both simultaneously. Chlorination, i. e. under acid conditions, is desirable for lignin removal but oxidation is desirable for the removal of coloring matter.

Under normal mill conditions as regards the pulp and the method of making bleach liquor the pulp mass is strongly alkaline (pH over 8) at the beginning but becomes slightly acid during the bleaching process. It will cease to show pink with phenolphthalein when the bleaching period is about half completed. It is better, however, from the standpoint of high strength of product to add sufficient alkali (lime or caustic soda) to maintain the pink test throughout the entire bleaching period. Too much alkali, on the other hand, will result in greatly increased length of the bleaching period or in preventing the attainment of full white.

The advent of glass electrodes and their introduction into rugged pH equipment made it possible to determine pH even in strongly oxidizing media. It is hoped that these facilities will permit a more critical study and that we shall before long know how to control the pH during bleaching so as to control quality, not only to prevent deterioration in quality but also in directing the reaction toward the production of desired properties.

3. AGITATION.—Agitation is important for two reasons (1) It provides the means for mixing the bleaching agent with the pulp. At densities below about 10 per cent mixing is fairly easy and rapid. In case the bleaching agent has not been added in the correct proportion initially, supplementary amounts can be added provided the mixing is adequate. At the higher densities these supplementary additions become more difficult. (2) Agitation prevents separation of the fibers from the water of suspension. At the higher densities, when the free water is not sufficient completely to fill the interstices between the fiber agitation is unimportant and may be definitely detrimental to quality except at times when the bleaching agent is being blended with the pulp.

4. DENSITY.—High density means high concentration of the bleaching agent in the suspending water, and hence a more rapid rate of bleaching and more drastic action on the dirt particles. The bleaching may be done, therefore, at a lower temperature with a corresponding saving of steam, the product will be cleaner, and the bleaching equipment may be smaller. These advantages must be weighed against the greater difficulty in setting up rapid and thorough mixing, higher power for agitation and possible reduction in quality resulting from too drastic rubbing of fiber against fiber.

The trend during the past 10 or 15 years has been toward higher densities roughly up to 20 per cent or over. Now there is again growing and serious consideration of the lower densities, e. g., around 8 to 12 per cent.

5. TYPES OF EQUIPMENT.—Equipment for bleaching differs chiefly as regards their suitability for agitating the stock and keeping it in suspension during the bleaching period. Some are designed to handle high density stock and some low or intermediate densities. All aim at avoidance of dead spots in the circulation. All aim at some

blending. Choice of equipment will depend then largely on the weight given to the factors discussed in paragraphs 3 and 4 above.

6. CATALYSTS.—Much has been published in patent and technical literature about catalyzing the bleaching reaction. I am not personally familiar with any operation in which catalysts are deliberately added. Catalysts do, however, play a part in the bleaching reaction and may become very detrimental. For example, the presence of iron salts may result in a material reduction in the strength of the pulp. A greater knowledge of catalysts especially of those having a detrimental effect would undoubtedly prove very valuable.

7. MULTI-STAGE BLEACHING.—The bleaching agent reacts not only on the coloring matter in the pulp but also on the decomposition products even after color has been discharged. The ideal would be to stop the reaction as soon as the colored compounds have been rendered soluble and proceed at once to wash out these reaction products. Then add more bleach and repeat. The more often these steps are repeated, the lower the total bleach consumption. But multiplying the stages increases the installation cost and the fiber losses as well as the operating expense. Normally more than two stages of hypochlorite bleaching have not been found economically practicable. Three and four stage processes have, however, been found advantageous for some products when two or more types of reaction are combined. A typical combination would be: 1. Chlorination; 2. Caustic extraction; 3. Bleach; 4. Super-bleach with hypochlorite or chlorine. The stock is washed after each stage. Other combinations are in use.

There are many problems still unsolved in the design and operation of multi-stage bleaching. What proportion of the purification should be done in each stage? What temperature? What density? What period of reaction? etc. The investigator need not lack problems to challenge the best of his ingenuity.

8. CONTINUOUS VS. BATCH OPERATION.—Continuous processes may require greater initial installation cost but when properly installed are likely to require less labor than batch processes. This is increasingly true with increasing size of the operation. Choice of these alternatives can be made only after a full study of local conditions and of the extent to which facilities have been provided to keep control of the variable factors. Chlorination lends itself well to continuous operation. The reactions take place rapidly at low temperatures and at low pulp densities as e. g. 4 per cent and less. Bleaching reactions, however, are best carried on at densities of 8 per cent or over. In such case it is more difficult to get continuous control of rate of stock flow, of uniformity of mixing, and of thoroughness of agitation. For the same reasons it is difficult to provide for supplementary dosage with bleaching agents.

Continuous chlorination ties in well with continuous washing. Every change from continuous to batch operation or vice versa requires the added installation of storage facilities to provide for the intermittent surges in flow.

**What Are the Most Favorable Conditions for Chlorination?**

This is a question that belongs logically to this discussion but it has been frequently treated by the writer in the technical and trade press and further comment at this time would be superfluous.

**Conclusion**

If I have to any appreciable degree accomplished my purpose in this discussion you will have come to a keen appreciation that what we know about bleaching is badly dwarfed by what we have yet to learn. This is, of course, an unfortunate state of affairs but is one which need not give us cause for worry. It is rather a challenge to the technical brains of the industry. Here is a situation in which many of you are vitally concerned and toward the betterment of which you can make noteworthy contributions.

## New TAPPI Members

The executive committee of the Technical Association is pleased to announce the following elections to membership:

George Jayme, research chemist at Canadian International Paper Company, Hawkesbury, Ont., who has just accepted a position at the Institute of Paper Making Technology at the University of Darmstadt, Darmstadt, Germany, where he will be in charge of this course. Dr. Jayme is a 1922 graduate, Doctor Engineer, Darmstadt, and was formerly research chemist for the Badische Amilini, Ludwigshafen, Germany, and the Ver. Glanzstoff Fabr., Berlin, Germany.

L. Keville Larson, New York, district representative, Pulp Division, Weyerhaeuser Timber Company, is a 1920 graduate of Lawrence College, Appleton, Wis., and a 1926 graduate of Oxford University, England; and was formerly pulp salesman for the Mead Sales Company and manager of the London office of Fraser Companies, Ltd.

Malcolm G. Lyon, student, New York State College of Forestry and was formerly with Dill & Collins, Inc., Philadelphia.

Thomas R. Moore, assistant chemist, Port Royal Pulp and Paper Company, St. John, N. B., is a 1933 graduate of the University of New Brunswick.

Royal H. Rasch, research chemist, Pulp and Paper Laboratory of the Industrial Committee of Savannah, Ga., is a 1923 graduate of Tufts College and was formerly research chemist for the Brown Company, Berlin, N. H.

Charles C. Ryan, resident engineer, British Columbia Pulp and Paper Company, Port Alice, B. C., is a 1913 graduate of McGill University.

Frederick L. Smith, Pulp and Paper Mill Consulting Engineer, New York, has become reinstated.

John W. Turner, superintendent, Lincoln Division of Alliance Paper Mills, Ltd., Merritton, Ont., is a 1923 graduate of the University of Toronto.

Robert W. K. Ulm, graduate student, Institute of Paper Chemistry, Appleton, Wis., is a 1933 graduate of Ohio Wesleyan University and was formerly with the Beloit Iron Works, and the Manayunk Division of the Container Corporation of America.

Charles C. Willis, Consulting Engineer, Bound Brook, N. J.

Dan B. Wicker, Chief Chemists, Thilmany Pulp and Paper Company, Kaukauna, Wis., is a 1927 graduate of the Massachusetts Institute of Technology and received his Ph.D. from the Institute of Paper Chemistry in 1935 and was formerly chemist for the Eastern Manufacturing Company, S. Brewer, Me.

## Performance of Artificial Mill Stones

R. I. Wynne-Roberts, who will read a paper on "The Mill Performance of Artificial Pulpstones" at the Grand Rapids Convention of American Pulp and Paper Mill Superintendents Association is a sales engineer doing technical advisory work for Norton Company, Worcester, Mass.

Mr. Wynne-Roberts was lately connected with the Research Division of International Paper Company, where he had charge of experimental and development work on ground wood pulp, and he also functioned in this capacity in the various ground wood mills of that company.

# Recent Developments in the Technology Of Lithographic Papers*

By Robert F. Reed[1]

In the days before the invention of coated paper it was common practice to print high grade work, especially fine line etchings and stipple work on dampened paper. This practice still exists in the printing of art subjects, both lithographs and engravings. With the development of halftone block printing on a commercial scale, dampening of paper was out of the question and necessity brought forth coated paper. Then for twenty years or so lithography struggled along in a losing fight until the invention of offset lithography and the almost simultaneous adoption of photographic methods which resulted in the process known as photolithography.

During this period lithographers adopted the halftone process to their purposes, but, like the letterpress printers, found that halftone printing required very smooth-surfaced paper, and practically necessitated the use of coated paper. With offset lithography, in which the printing was performed by the rubber blanket, coated paper was no longer necessary. In fact the ability to print halftones on a variety of paper surfaces gave offset lithography a distinct advantage over letterpress printing, which it has held ever since.

The early claims that any kind of paper could be printed offset were soon discovered to be without much foundation. The nature of the impression and the character of the ink placed definite requirements on paper. Early rubber blankets quickly developed a tacky surface unsuitable to printing on super and coated papers. The relatively stiff inks and high speeds required paper of strong substance, free from lint, or loosely-bound fibers. The metal plates were sensitive to acids, alkalies, or grit in the paper. While offset printing was done with much less pressure than letterpress printing, the impression was uniform, with no relief between cuts, and made necessary careful conditioning of paper to insure perfect flatness. The fact that the printing plate was a single sheet of metal obviated the possibility of shifting cuts to secure register, possible in letterpress printing, and responsibility for good register was placed largely on the paper.

Offset lithography has been in existence about thirty years. During this time there have been many improvements in the offset press itself, and in plates, rollers, inks, blankets, and paper. Speed and sizes of presses have been greatly increased, and quality of printing improved. This evolution has placed more and more stringent demands on all equipment and materials used, including paper. Development of suitable papers has been one of the most important factors but has been accomplished largely by the trial and error method. The need for a systematic study

* Presented at the joint meeting of the Ohio Section of the Technical Association of the Pulp and Paper Industry and the Miami Valley Div. of the Superintendents Association, May 16, 1936.

[1] Member TAPPI, Director of Lithographic Research, Univ. of Cincinnati.

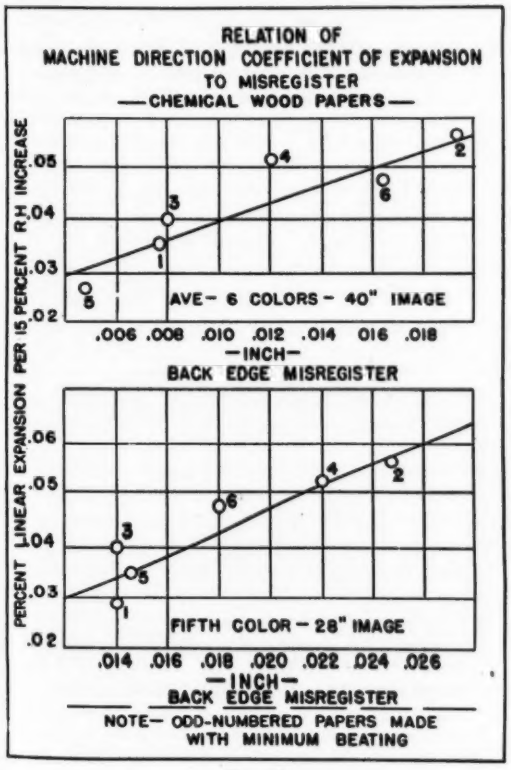



FIG. 1[2]

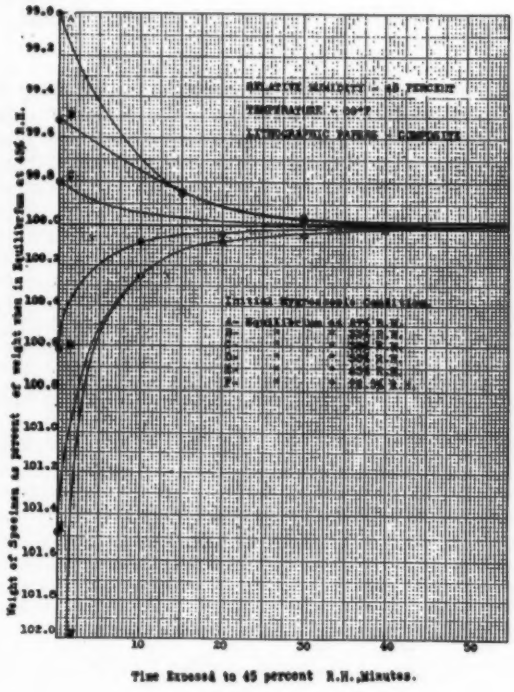



FIG. 2

[2] For Figs. 1 to 5, see Weber, C. G. and Snyder, L. W., "Reactions of Lithographic Papers to Variations in Humidity and Temperature," Research Paper No. 633, Bureau of Standards Journal of Research, Vol. 12, No. 1, January, 1934.

of paper from the standpoint of use requirements in offset lithography has long been indicated and such a study was initiated at the Bureau of Standards in 1930 under the sponsorship of the Lithographic Technical Foundation. This work is far from complete. So far nothing has been discovered that is absolutely new. Most of the findings simply corroborate what was previously known or suspected. The value of the work lies principally in the fact that it has extended and clarified knowledge of the behavior of paper and has enabled a more logical and complete solution of the register problem to be found.

### Physical Properties of Paper

It is elementary knowledge that cellulose fiber is hygroscopic and that it swells or contracts with gain or loss of moisture; that the moisture content of fiber depends on the relative humidity of the atmosphere; that stretch and shrinkage of paper depend on the nature and distribution of the fiber; that lithographic paper should have a minimum tendency to change in moisture content and therefore in dimensions with changes in relative humidity. The manufacture and handling of lithographic papers in general has been carried out with this knowledge. Lithographers almost invariably have hung their paper in the pressroom atmosphere in an effort to bring it to hygrometric equilibrium before printing. In some plants air-conditioning equipment has been installed to prevent fluctuations in relative humidity. However, it has been recognized that knowledge was lacking as evidenced by the occurrence of unaccountable difficulties. A preliminary survey including some thirty-one of the larger lithographic plants showed that misregister was by far the most serious difficulty encountered. Misregister resulted from incorrect press conditions as well as from faulty paper, but the paper factor in misregister was least understood.

### Paper as a Cause of Misregister

The question of the effect of fiber treatment on register was first investigated. Four series of experimental papers

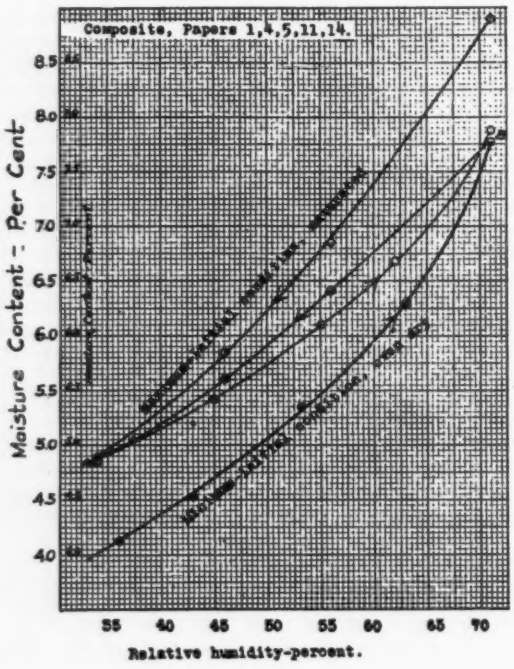



FIG. 3

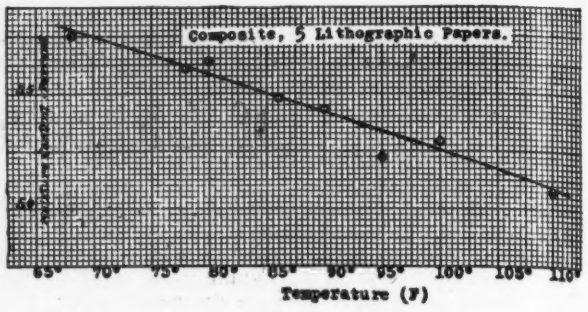



FIG. 4

were prepared by three different mills from chemical wood fiber, each series representing at least two degrees of beating and jordanning. These papers were conditioned in an atmosphere of 45 per cent relative humidity from the dry side in the usual manner, tested in the laboratory, and then used in actual printing experiments. In three out of the four series the ratio of folding endurance in the machine direction to that in the cross direction was considerably greater for the samples having minimum fiber treatment. Expansion in the machine direction for a given change in moisture content was found to be least in all samples having minimum fiber treatment. Fig. 1 shows the results of two printing tests, one a six-color, and the other a five-color job. The odd-numbered papers were the ones having a minimum of beating and jordanning, while the others had received considerably more fiber treatment.

Time of conditioning for single sheets was also studied and the results are shown in Fig. 2. It will be seen that these papers, all of about 70 pounds basis weight, reached practical equilibrium in about 40 minutes regardless of their initial moisture contents.

The effect of direction and extent of conditioning on the moisture content of the papers was next investigated. Jarrell *(11)* in 1927 showed that there is a lag in the equilibrium moisture content of paper, and moisture content depends on the direction in which paper approaches equilibrium with the atmosphere. Weber and Snyder *(2)* repeated and extended Jarrell's work and studied also the effect of temperature changes on moisture content at constant relative humidity. The effects of all changes in moisture content were correlated with resulting changes in dimensions. Fig. 3 shows the variation in equilibrium moisture content of chemical wood offset papers when equilibrium is approached from opposite directions.

Fig. 4 shows that moisture content decreases slightly as temperature increases, even though the relative humidity remains constant.

Fig. 5 shows that dimensional changes are practically proportional to changes in moisture content of paper.

With these relationships in mind, it was a simple matter to draw the following tentative conclusions:

1. Control of temperature is a factor in air-conditioning where the control of paper dimensions is involved.
2. It is possible for paper to vary as much as one per cent in moisture content with proportional dimensional changes, and still remain in hygrometric equilibrium with an atmosphere of constant relative humidity.
3. Paper having a moisture content corresponding to the minimum curve in Fig. 3 will tend to absorb moisture on the press and expand proportionately, while paper with a moisture content corresponding to the maximum curve will tend to lose the press moisture quickly by evaporation.
4. Paper having a non-uniform moisture distribution

with consequent distortion may be completely in equilibrium with the atmosphere surrounding it. Thus, in some cases it would be impossible to remove waviness or tight edge by simply reconditioning paper in the press room atmosphere.

In order to test these conclusions, it was necessary to make actual conditioning and printing tests and to check the reactions of the sheets by means of careful measurements and moisture-content determinations.

Fig. 6 shows the moisture-content changes in five samples of the same offset paper during conditioning by various methods, and the subsequent printing of a nine-color job. It will be seen that those samples conditioned at relative humidities higher than the pressroom atmosphere remained most nearly constant in moisture content during the printing.

Fig. 7 shows reproductions of the printed register marks on a seven-color job printed on five lots of the same offset paper conditioned by different methods, together with measurements of misregister of succeeding colors from the first color, in decimal fractions of an inch. For comparison, the Paper Hygroscope *(3)* readings taken on each sample at the start of the run are also shown. The reading on Sample No. 21 indicates an initial moisture content about 0.5 per cent above the equilibrium moisture content, and this sample yielded the best register.

### Conclusions

The principal conclusions that can be drawn from the work are:

1. Chemical wood papers for multicolor offset lithography should be made with an absolute minimum of beating and jordanning.
2. A fairly large directional difference in formation of paper, as indicated by the difference in folding endurance with and across the grain, is desirable.
3. Printing in an atmosphere of constant relative humidity is a great help in avoiding register troubles, but control of temperature is equally important.
4. Paper maintains its dimensions best during printing if its initial moisture content is 0.5 to 1.0 per cent higher than the minimum equilibrium moisture content for the pressroom atmosphere.
5. The best method of conditioning paper to the desired moisture content remains to be determined. For use in air-conditioned plants it may be possible for the mill to supply paper already in the proper condition. For use in plants without air-conditioning the paper may be supplied with a high moisture content so that conditioning will practically always take place by loss rather than by gain of moisture. If relatively dry paper must be conditioned after its arrival at the lithographic plant, there are two alternatives:
   a. to maintain a paper-conditioning room with an atmosphere of 5 to 10 per cent relative humidity above the pressroom atmosphere.
   b. to develop a paper-conditioning machine with means which permit the controlled addition of moisture to the paper to a point 0.5 to 1.0 per cent above the equilibrium moisture content.

[3] For Fig. 6 and 7, see Weber, C. G., and Geib, M. N. V., "Treatment of Offset Papers for Optimum Register", Research Paper No. 859, Bureau of Standards Journal of Research, Vol. 16, Feb., 1936.

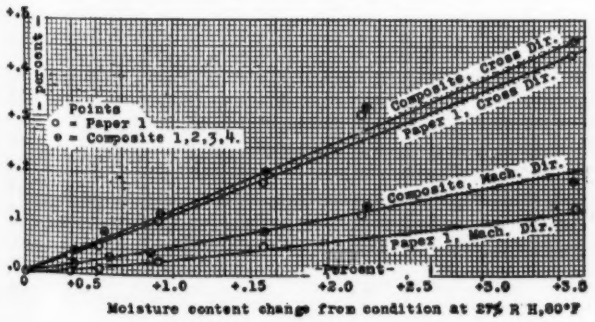



FIG. 5

Influence of Moisture-content variations on dimensions of lithographic papers. Comparison of paper No. 1 with the average of No. 1, No. 2, No. 3, No. 4. Values at the left are dimension changes as variation from dimensions at 27 per cent R.H. and 80 deg. F. temperature.

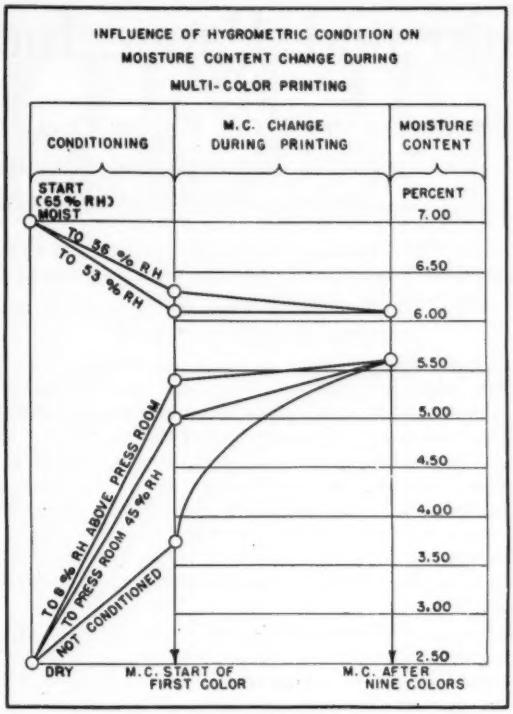



FIG. 6[3]

### Literature Cited

(1) Jarrell, T. D., "Effect of Atmospheric Humidity on the Moisture Content of Paper," *Paper Trade J.* 85, No. 3:47 (July 21, 1927).
(2) Weber, C. G. and Snyder, L. W., "Reactions of Lithographic Papers to Variations in Humidity and Temperature," Research Paper No. 633, National Bureau of Standards, J. Research, 12, No. 1 (Jan., 1934).
(3) Sales Bulletin No. 1, "The Paper Hygroscope," Lithographic Technical Foundation, Inc., New York, N. Y.

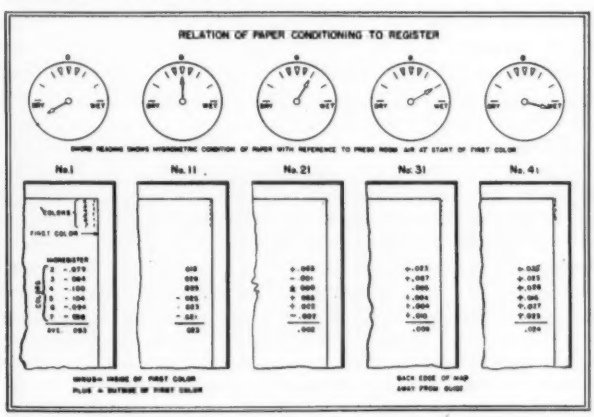



FIG. 7

# Pulp and Paper Industry Literature Review

**Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman**

**Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.**

### Coating and Filling Material

**Coating Paper Webs.** Seaman Paper Co. Brit. pat. 423,512 (Feb. 4, 1935).—Coating material for paper for use in printing is made plastic by removing substantial quantities of its liquid content and is transferred under pressure as a smooth viscous film to the entire surface of the web. The coating solution or suspension comprises glue, size, gelatin, casein, starch, clay, calcium sulphate, resin, oils, varnishes, etc., in water or oil. The paper passes between smoothing rolls, is partially dried in a conventional multi-tier drier, coated, dried and calendered. —A. P. -C.

**Manufacture of Loaded Paper.** Orvon P. Gephart assignor to Howard D. Meincke. U. S. pat. 2,001,246 (May 14, 1935).—There is incorporated into the paper a dispersion of calcium sulphate containing small proportions of a soluble aluminum compound and an alkaline lime compound.—A. P. -C.

**Incorporating Fillers in Paper.** Mead Corp., assignees of H. P. Carruth. Brit. pat. 428,974 (May 23, 1934).—A suspension of filler is sprayed through the wire of the paper machine on to the underside of the web of paper as it leaves the suction boxes. The filler consists of 6 per cent of coating clay or calcium carbonate mixed with 5 to 7 per cent, on the weight of the filler, or starch. The paper should retain 2.5 per cent by weight of the filler.—A. P. -C.

### Sizing

**Losses in Size Making and Observations in the Cooking of Rosin.** Maxamillian Krimmel. Technical Association Papers 18:383-385 (1935); Paper Trade J. 101, No. 1:44-46 (July 4, 1935).—The losses in the manufacture of rosin size milk by hot processes are considered from a theoretical standpoint involving the results of analysis of raw materials and the composition of rosin soaps. The details are given of a practical method for measuring actual losses in mill operations, and also the results of the method when applied, showing close agreement between the loss predicted from analysis of raw materials and the actual loss. A study of the effect of time variation in saponification yielded some interesting but not conclusive results.—A. P. -C.

**Sizing Paper Pulp.** Landwirtschaftliche Genossenschaft zur Verwertung der Harzprodukte in Piesting Registrierte Genossenschaft m.b.H. Brit. pat. 424,230 (Feb. 18, 1935).—A solid non-saponified sizing resin soluble in water is obtained by emulsifying molten rosin in water and introducing a protective colloid, such as casein, and ammonia or an ammonium salt. The protective colloid may be dispensed with, and the ammonia or ammonium salt must be in amount insufficient to effect saponification of the rosin.—A. P. -C.

**The Bewoid Sizing System.** Bruno Wieger. Technical Association Papers 18:447-451 (1935); Paper Trade J. 101, No. 5:33-37 (Aug. 1, 1935).—The advantages claimed for the Bewoid sizing system are outlined, and sizing theories are discussed in the light of the Bewoid system.—A. P. -C.

**Preparation of Rosin Emulsions for Sizing Paper.** Aldo Bazzocchi and Luigi Morandotti. Fr. pat. 781,729. —Preparation of emulsions of unsaponified rosin are facilitated by the use of from 1 to 5 per cent of sulphonated derivatives of aliphatic alcohols or of sulphonated derivatives of aliphatic or aromatic hydrocarbons, based on the weight of rosin used.—A. P. -C.

**German Rosin.** H. J. Loyke. Wochbl. Papierfabr. 66, No. 15:285-286 (April 13, 1935).—The yearly consumption of rosin in Germany is given and the amount of this which can be supplied from German trees. Methods for the production of rosin and the future possibilities for supplying the country from domestic sources are discussed. —J. F. O.

**The Gillet Sizing Process.** Wochbl. Papierfabr. 66, No. 17:323 (April 27, 1935).—The rosin is cooked in a special cooker, without pressure, and for 5 hours in a 2 stage process. First the rosin is cooked with a determined quantity of soda ash and sodium bicarbonate and in the second stage the mass is treated with volatile alkali (ammonia). This mass is then mixed with water to the desired concentration.—J. F. O.

**Wax Emulsion for Sizing Paper.** Arthur H. French assignor to A. E. Staley Manufacturing Co. U. S. pat. 2,009,488 (July 30, 1935).—Corn oil soap is emulsified with water to form a paste, which is then mixed with modified starch, preferably in proportions of about 15 parts modified starch to 10 parts corn oil soap. There is finally added, with constant stirring, about 75 parts of a wax, preferably melted paraffin.—A. P. -C.

### Drying

**Fine Specimen of Finnish Engineering.** Finnish Paper and Timber J. 17, special issue: 262-263 (April, 1935).—What is claimed to be the biggest pulp drying machine of the world has been installed at the Kymmene Aktiebolag in Finland. It is designed for bleached sulphite and equipped with a Minton vacuum dryer, electric sectional drive and a Jagenburg precision cutter.—C. J. W.

**New Condensate Regulating Valve for Drying Cylinders.** A. Slingsby. World's Paper Trade Rev. 103: 1939-1946 (June 21, 1935).—A brief description of a new type of condensate regulating valve for paper machine driers, designed to overcome the difficulties encountered with the use of steam traps on driers. The valve is operated by a cam secured to the journal end of the drier so that the valve is automatically opened and closed at each revolution of the cylinder in synchronism with the discharge of condensate through the trunnion by the water-lifting buckets. The advantages of the valve are explained.—A. P.-C.

**Graduate Paper Drying and Control.** C. F. Black. Paper Mill 58, No. 14: 22, 24 (April 6, 1935).—A brief outline of the development of graduated paper drying from its inception in 1907 to the present day.—A. P.-C.

# CONSTRUCTION NEWS

***A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills***

### Construction News

**Tacoma, Wash.**—The St. Regis Kraft Company, Tacoma, with main offices at 230 Park avenue, New York, N. Y., has engaged H. S. Ferguson & Company, 200 Fifth avenue, paper mill engineers, to prepare plans for proposed extensions and improvements in sulphate pulp mill at Tacoma, recently noted in these columns. Plant has been closed for over five years and will be completely modernized in connection with expansion project, latter to provide for conversion of units for bleached pulp production. New structures will be built and additional machinery installed. It is proposed to carry out work by day labor. Entire project is reported to cost in excess of $600,000, with equipment. W. W. Griffith is general manager at mill, and will supervise new construction. Company is a subsidiary of St. Regis Paper Company, 230 Park avenue, New York.

**Hoboken, N. J.**—The Universal Folding Box Company, 94 Thirty-fourth street, Brooklyn, N. Y., manufacturer of folding paper boxes and containers, will soon take bids on general contract for remodeling and improving factory at Monroe and 12th streets, Hoboken, acquired some months ago, to be occupied for a new plant. Equipment will be installed for regular line of production. Entire project is reported to cost over $50,000.

**Grand Rapids, Mich.**—The American Box Board Company, manufacturer of box boards, test liners and kindred board products, plans improvements in plant, including installation of new equipment. Company is arranging financing in total amount of $99,720, a portion of proceeds to be used for purpose noted. F. H. Bither is general superintendent.

**Orange, Tex.**—The Equitable Paper Bag Company, 314 Scholes street, Brooklyn, N. Y., manufacturer of kraft and other paper bags and containers, has work under way on the installation of equipment in building adjoining local plant of Orange Pulp and Paper Company, Orange, using former mill of Commercial Pulp and Paper Company. First noted company is interested in Orange Pulp and Paper Company, which took over the property several months ago. New unit will be used for conversion service and is reported to cost over $60,000, with machinery. E. L. Hardy is manager at local mill.

**Kalamazoo, Mich.**—The Sutherland Paper Company, manufacturer of box board products, etc., has perfected a new paper container for oil service, and plans establishment of extensive production facilities. Company will utilize local mill property, recently acquired, previously noted in these columns, totaling about 70,000 square feet of floor space, largely for this new line of output, operating as a converting unit in conjunction with local board mill. L. W. Sutherland is president.

**Kaukauna, Wis.**—The Thilmany Pulp and Paper Company, manufacturer of tissue papers, waxed and other processed paper stocks, is beginning super-structure for new two-story addition, previously referred to in these columns, for which general contract has been let to the Permanent Construction Company, 2712 North Holton street, Milwaukee, Wis. Award for structural steel has been given to Worden-Allen Company, Milwaukee; and for tile for roofing purposes, to the American Cement Tile Company, Milwaukee. Structure will cost close to $50,000, with equipment.

**Emeryville, Cal.**—The Paraffine Companies, Inc., manufacturer of building papers and kindred paper and composition products, is planning extensions and improvements at mills, including installation of additional equipment. Entire project will cost about $250,000, and is scheduled to begin soon. Company has authorized financing for this and other purposes through the sale of blocks of preferred and common stock. Main offices are at 475 Brannan street, San Francisco, Cal. R. S. Shainwald is president and general manager.

**Paterson, N. J.**—D'Amelio Paper Stock Company, 42 Fulton street, is considering rebuilding of portion of storage and distributing plant, recently destroyed by fire. Loss estimated over $75,000, including stock and equipment. M. D'Amelio is head.

**Toronto, Ont.**—The Abitibi Power and Paper Company, Ltd., 408 University avenue, is considering preliminary plans for remodeling and converting its Fort Williams and Sturgeon Falls Division mills at Fort William, Ont., and Sturgeon Falls, Ont., respectively, into sulphite pulp mills. The plants, heretofore used for newsprint production, are now idle. G. T. Clarkson, receiver and manager, is having estimates of cost made and report prepared of practicability of project.

**Gatineau, Quebec**—The Canadian International Paper Company, Beaver Hall Square, Montreal, Que., is considering early rebuilding of portion of mill at Gatineau, recently destroyed by fire with loss reported over $200,000, including equipment.

### New Companies

**New York, N. Y.**—The Beebe Manufacturing Company, Inc., has been incorporated with capital of 500 shares of stock, no par value, to manufacture and deal in paper products. Vincent D. Stearns, Beacon, N. Y., is one of the principal incorporators.

**Wilmington, Del.**—The Kolor-Kraft Corporation, care of the Delaware Registration Trust Company, Delaware Trust Building, Wilmington, has been incorporated under state laws with capital of $250,000, to manufacture and deal in kraft paper stocks.

**New York, N. Y.**—The Twentieth Century Paper Products, Inc., Bronx, has been organized with capital of $10,000, to deal in paper goods of various kinds. New company is represented by Nathan Kosseff, 2 Lafayette street, New York.

**New York, N. Y.**—The Westchester Envelope Com-

pany has been chartered with capital of $10,000, to manufacture and deal in envelopes and kindred paper products. New company is represented by Thomas P. Mackey, 40 Wall street, New York.

**Lubbock, Tex.**—Newsome-Gibson Paint and Paper Company has been organized to deal in wall papers, etc. The principal incorporators are Garland Newsome and T. P. Gibson, both of Lubbock.

**Brooklyn, N. Y.**—The Jaffe-Schrier Paper Corporation has been organized with capital of $20,000, to deal in paper and fibre products of various kinds. New company is represented by the Albany Service Company, 315 Broadway, New York.

**Wilmington, Del.**—Fibrotex, Inc., has been chartered under direction of Corporation Fiscal Company, Delaware Trust Building, Wilmington, with capital of $90,010, to manufacture and deal in fibre products, fibre containers and allied specialties.

## Sell Rights Abroad for "Process Coated"

"Process Coated"—the words used by Consolidated Water Power and Paper Company of Wisconsin Rapids, Wis., describe the new coating process the company has had in operation for nearly a year, are becoming world-famous. The right to use this process has been bought by a number of the most important paper manufacturing firms of Europe and in a very few months coated papers will be made under this process and invention in England and other countries.

Consolidated Water Power and Paper Company owns and controls this process under patents, No. 1,921,368—1,921,369 and the process is also patented in all important foreign countries.

When the PAPER TRADE JOURNAL last June published for the first time a reference to this process installed by the Consolidated, the article came to the attention of the officials of the Lloyd Company, the large paper manufacturer of England. The chief engineer of that company, the superintendent of paper manufacturing, and other executives came to the United States after seeing the PAPER TRADE JOURNAL article and visited Wisconsin Rapids. They studied the process and after considerable negotiations purchased the process coating rights for England. The Lloyd Company ordered from the Beloit Iron Works, Beloit, Wis., three process coated machines to be manufactured like the original one in operation at Wisconsin Rapids which had been made at Beloit. These machines have been completed and will shortly be in operation in England. One of them was made to become a part of a paper machine 320 inches wide, the widest ever made in the world which is being installed in a new mill being constructed by Lloyd Company of England.

After purchasing the English rights, Lloyd sent four of its technical engineers and chemists to Wisconsin Rapids where these men stayed for nearly a month, studying the Consolidated methods in operating this process.

Shortly after this, Kymmene Paper Company, the large paper manufacturing company in Finland, bought the rights from the Consolidated for the Scandinavian countries for this process.

The largest paper company in France has taken an option on this process for France and Switzerland, and it is reported they are proceeding with the construction of machinery to get this new discovery in full operation in those countries.

Under the traditional method of manufacturing coated papers, the paper is first made on the paper machine and then with one or two additional operations on other machines, the paper receives its coats.

The "Process Coated" system of Consolidated Water Power and Paper Company at Wisconsin Rapids, revolutionizes this historical method of making coated papers.

With new machinery of a type never before made in America, through this discovery, the paper is formed, dried, and actually coated on both sides in one continuous machine operation thereby materially reducing manufacturing costs and affording opportunity to reduce selling prices proportionately. The coating applied through "Process Coated" is equal to 20 per cent of the paper weight, 10 per cent on each side. On one of the machines thus made for this process Consolidated Water Power and Paper Company is able to produce 85 tons of "Process Coated" stock every 24 hours and plans are being carried out at Wisconsin Rapids to install this system on other machines in different mills owned and operated by the Consolidated.

In the past few months, executives from quite a number of the largest United States paper plants have spent varying periods at Wisconsin Rapids studying this process and it is reported that a prominent Eastern paper firm is negotiating to acquire from the Consolidated the rights to install this process in their plant on a license and royalty basis.

In a report, recently issued to his stockholders, George W. Mead, the president of Consolidated Water Power and Paper Company, announced that the royalty revenues that will come from foreign countries through paper companies installing this process will be substantial.

Consolidated Water Power and Paper Company is selling this "Process Coated" book paper under the mill brand names of Production Gloss and Production E. F. Filmed. Paper wholesalers have been very eager to add these brands to their lines for within the past three months over seventy paper wholesalers throughout the United States have become stocking distributors.

In Chicago alone six representative paper wholesalers, Bermingham & Prosser Company, J. W. Butler Paper Company, Chicago Paper Company, Moser Paper Company, Parker, Thomas & Tucker Paper Company, and Whitaker Paper Company are now stocking and distributing these brands.

Consolidated Water Power and Paper Company has long been manufacturing rotogravure paper. The company has recently utilized "Process Coated" to their roto papers under the names of Pictoroto Gloss and Rotafilm, radically changing the surface of paper and making it ideal for more brilliant roto printing.

For regular letter-press printing "Process Coated" produces paper identical on both sides with a smooth velvety finish that permits four-color printing and accurate reproduction of fine screen halftones.

## Northwest Paper Co. Elects Officers

At the annual meeting of the Northwest Paper Company held in Cloquet, Minn., on May 13, the following board of directors was elected:

R. M. Weyerhaeuser, H. C. Hornby, F. K. Weyerhaeuser, George R. Little, E. W. Davis, John M. Musser and W. B. Driscoll.

F. K. Weyerhaeuser was elected chairman of the board, H. H. Irvine, president, W. H. Kenety, vice-president, S. L. Coy, vice-president, Hugo Schlenk, secretary and treasurer. R. M. Weyerhaeuser and H. C. Hornby, after many years as chairman of the board and president, respectively, asked to be relieved of active duty.

## D. M. Bare Paper Co. Introduces a New and Whiter White Paper for Color Printing

Gar-Tone book paper brings to the graphic arts a new whiteness in uncoated paper which according to the manufacturers, the D. M. Bare Paper Company of Roaring Springs, Pa., will greatly facilitate printing of natural color process plates.

The tremendous increase in the use of natural color photography and reproduction in recent years has created a wide field for an inexpensive paper which is adapted to the process. The D. M. Bare Paper Company feels that before very long the greater part of advertising illustration will be done in natural color from color photographs and also that the use of good, clear, bright colors will increase. The factor which retarded development of these uses was lack of sufficiently white Super, E. F. and M. F. Papers.

Successful creation of this new paper came about through a carefully planned program and intensive study of color in relation to reproduction requirements. Instead of confining their investigations to their paper research laboratories, the D. M. Bare Paper Company first directed its efforts toward finding, in the photographic, color printing, and ink manufacturing fields, just what qualities were required of uncoated book paper to give better color reproduction.

While experimenting with color reproduction technique, they found that when collodion sheets are super-imposed to show the composite of the various negatives needed to produce the finished color photograph, a pure white background is necessary for faithful reproduction. Any tint or color value in the background on which the collodion was super-imposed, detracted from the natural effect and true value of the colors.

The logical conclusion was that in the printing of color plates made from negatives of these collodion sheets, identical results could be obtained only by using a whiter paper.

Knowing what qualities were needed by the industry, the D. M. Bare Paper Company turned to their laboratories. There, thorough tests and exhaustive experiments were conducted to determine the proper ingredients for this whiter uncoated book paper that would reflect all colors impartially.

Such whiteness was achieved in this newer and whiter paper, which is made expressly for color reproduction on Super, Twin and Machine Finishes.

Because of the more perfect reflection of light made possible by this uncoated book paper, not only is it possible to print reproductions of the colors recorded by the camera, but also it is found this new whiteness imparts third dimensional effect to be observed in the color photograph.

## H. V. Mercer Heads Armco Advertising

Bennett Chapple, vice-president and director of publicity of The American Rolling Mill Company, Middletown, Ohio, recently announced the appointment of Harry V. Mercer as advertising manager of the company. It is a newly created office at Armco.

Mr. Mercer has been associated with Armco since May 1, 1916. During 14 of his 20 years of service he has been identified with practically all phases of the company's publicity and advertising. In his new responsibilities, he will administrate Armco's program of advertising.

Mr. Mercer's many friends throughout the profession have expressed pleasure at the recognition which this appointment indicates.

## Carl Lager Heads Morris Machine Works

Morris Machine Works of Baldwinsville, N. Y., announces that changes in its executive personnel, incident to the death of Windsor Morris, have resulted in the election of Carl Lager as president, and Pierce J. McAuliffe as vice-president and general manager.

Carl Lager, the new president, joined the organization as its chief engineer forty-six years ago, and during this period he has been a leading factor in the remarkable advance in the development and application of centrifugal pumps.

The Village of Baldwinsville, where the plant is located, can be called the cradle of centrifugal pumps. It was there that the first centrifugal pump was made, and the original patents on the open and on the enclosed impeller were granted to its residents. Morris Machine Works is the outgrowth of these initial centrifugal pump developments.

Pierce J. McAuliffe joined the company in 1910 as designer of hydraulic dredging equipment. During the War, he was with the Construction Division of the Emergency Fleet Corporation, becoming manager of ship construction in 1918. He rejoined Morris Machine Works in 1920, and continued as their representative in the New York office until taking up his new duties at Baldwinsville.

## The A. B. C. Chart of Packing Service

The proper packing to be used no matter what kind of material is handled by the pump is set forth in detail in a chart in a new four-page folder that has just been issued by Greene-Tweed & Co., 109 Duane street, New York, N. Y. This chart, which is entitled "The A. B. C. of Packing," is a very handy and concise table to guide the reader in determining the correct packing to use to solve his particular problem, as no one packing can be expected to meet all conditions. Each packing carries a specially compounded lubricant to resist the destroying tendency of the various gases or fluids pumped.

Great care has been taken in selecting materials to eluminate, as far as possible, wear on rod or shaft; to lengthen the life of the packing in service and reduce interruption to production, due to packing failures.

In addition to this chart, the manufacturers will send without cost or obligation, working samples of their various brands of packing if the reader will advise size of packing used and the service under which it will operate, in order that a fair comparative test may be run to determine the claims of the manufacturer for long life and economy of service.

## Demand Expands for Paper Milk Containers

Expansion is reported in 1936 in practically all of the major lines of the American Can Company. The division, which is speeding up output to reach a 1,000,000 per week volume by the first of next month, also promises to bring in sizable revenues. Borden's Farm Products Company is taking the entire paper container output for its New Jersey trade. Expansion in New York State of this type of business is uncertain due to the recent ruling of the milk control board that an upstate dairy must charge one cent more for milk sold in paper containers than for milk sold in glass bottles, not including the three-cent deposit on glass. Similar rulings have been made in Massachusetts. However, there is some opinion that the New York ruling would not stand a court test and that ultimately the field for paper container expansion will prove large.

# IMPORTS OF PAPER AND PAPER STOCK

## NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

### NEW YORK IMPORTS

WEEK ENDING MAY 30, 1936

CIGARETTE PAPER

R. J. Reynolds Tobacco Co., *Pr. Harding,* Havre, 151 cs.; De Manduit Paper Corp., *Pr. Harding,* Havre, 175 cs.; Standard Products Corp., *Washington,* Havre, 35 cs.

WALL PAPER

———, *Columbus,* Bremen, 2 cs.; F. J. Emmerich, *Pr. Harding,* Hamburg, 2 bls, 1 ch.; S. K. Lonegren, *Gripsholm,* Gothenburg, 1 cs.; F. Blank, Co. Inc., *Berengaria,* Southampton, 20 cs.

WALL BOARD

Treetex Corp., *Alssund,* Ornskoldsvik, 5350 bdls.; Treetex Corp., *Gripsholm,* Gothenburg, 1127 bdls.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Banker,* London, 12 bls., 2 cs.

NEWSPRINT

N. Y. Evening Journal, *Cissy,* Quebec, 1548 rolls; N. Y. Evening Journal, *Tercero,* Quebec, 2784 rolls; Perkins Goodwin & Co., *Columbus,* Bremen, 313 rolls; Jay Madden Corp., *Columbus,* Bremen, 180 rolls; Jay Madden Corp., *Pr. Harding,* Hamburg, 578 rolls; S. B. Behrens & Co., *Olaf Bergh,* Sundsvall, 77 rolls; National Pulp & Paper Co., Inc., *Olaf Bergh,* Sundsvall, 336 rolls; ——— *Olaf Bergh,* Sundsvall, 10 rolls; International Paper Co., *Humberarm,* Dalhousie, 4778 rolls; International Paper Sales Co. Inc., *Humberarm,* Dalhousie, 3671 rolls; Jay Madden Corp., *Washington,* Hamburg, 435 rolls; Perkins Goodwin & Co., *Hamburg,* Hamburg, 289 rolls.

PRINTING PAPER

Steiner Paper Corp., *Columbus,* Bremen, 8 cs.; Dingelstedt & Co., *Columbus,* Bremen, 5 cs.; J. H. & G. B. Siebold Co., *Pr. Harding,* Hamburg, 20 cs.; Phoenix Shipping Co., *New York,* Hamburg, 4 cs.; ——— *American Banker,* London, 29 rolls, 4 cs.; Keller Dorian Paper Co., *Excalibur,* Marseilles, 6 cs.; E. Dietzgen & Co., *Hamburg,* Hamburg, 89 cs.

WRAPPING PAPER

———, *Columbus,* Bremen, 30 cs.; Jay Madden Corp., *Pr. Harding,* Hamburg, 1621 rolls; National Pulp & Paper Co., Inc., *Gripsholm,* Gothenburg, 2375 rolls, 298 pkgs.; Globe Shipping Co., *Hamburg,* Hamburg, 60 rolls; ——— *Bremen,* Bremen, 7 cs.

KRAFT PAPER

F. L. Smidth & Co., *Gripsholm,* Gothenburg, 191 rolls.

DRAWING PAPER

———, *Britannic,* London, 1 cs.

FILTER PAPER

Laboratory Glassware Corp., *Pr. Harding,* Hamburg, 4 cs.; C. Schleicher & Schull Co., Inc., *Pr. Harding,* Hamburg, 13 cs.; E. H. Sargent & Co., *Gripsholm,* Gothenburg, 1 cs.

FILTER PULP

A. Hurst & Co., *New York,* Hamburg, 20 bls.

FILTER COMPOUND

P. H. Petry & Co., *Washington,* Hamburg, 100 bls.

METAL COATED PAPER

K. Pauli Co., *New York,* Hamburg, 9 cs.; K. Pauli Co., *Hamburg,* Hamburg, 29 cs.; ———, *Hamburg,* Hamburg, 3 cs.

BASIC PAPER

Globe Shipping Co., *Columbus,* Bremen, 58 cs.

BARYTA COATED PAPER

Globe Shipping Co., *Columbus,* Bremen, 5 cs.; Globe Shipping Co., *Bremen,* Bremen, 35 crates.

SURFACE COATED PAPER

C. Happel, *Pr. Harding,* Hamburg, 2 cs.; Gevaert Co. of America, *Pennland,* Antwerp, 30 cs.; L. A. Consmiller, *Bremen,* Bremen, 26 cs.

PHOTO PAPER

J. J. Gavin, *Berengaria,* Southampton, 7 cs.

COLORED PAPER

D. C. Andrews & Co., *Columbus,* Bremen, 2 cs.; Borden Riley Paper Co., *Pennland,* Antwerp, 6 cs.; Model Wallpaper & Paint Co., *Carinthia,* Liverpool, 4 cs.; International F'd'g Co., *Hamburg,* Hamburg, 6 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., *Carinthia,* Liverpool, 35 cs (duplex).

DECALCOMANIAS

Dingelstedt & Co., *Bremen,* Bremen, 1 cs.; Phoenix Shipping Co., *Bremen,* Bremen, 2 cs.

WRITING PAPER

———, *Kungsholm,* Gothenburg, 1 cs.; Globe Shipping Co., *Washington,* Havre, 5 cs.

TISSUE PAPER

Atlantic F'd'g Co., *New York,* Hamburg, 9 cs.

CARD BOARD

American Express Co., *Pr. Harding,* Hamburg, 100 cs.; ———, *Pr. Harding,* Hamburg, 5 cs.

STRAW PAPER

American Express Co., *Thule,* Hamburg, 44 bls.

PAPER BOARDS

Salwen Paper Co., *Kungsholm,* Gothenburg, 17 bls.

PAPER TUBES

———, *New York,* Hamburg, 69 pkgs.; ———, *Hamburg,* Hamburg, 58 pkgs.

MISCELLANEOUS PAPER

Blauvelt Wiley Paper Manfg. Co., *Kungsholm,* Gothenburg, 155 rolls, 10 bls.; The Borregaard Co. Inc., *Kungsholm,* Gothenburg, 98 rolls; Guaranty Trust Co., *Kungsholm,* Gothenburg, 1542 rolls, 7 bls.; F. L. Kramer & Co., *Kungsholm,* Gothenburg, 158 bls., 40 pkgs.; Keuffel & Esser Co., *Pr. Harding,* Hamburg, 21 cs., 38 rolls; Jay Madden Corp., *New York,* Hamburg, 25 bbls.; ———, ———, *New York,* Hamburg, 332 rolls; Guaranty Trust

Co., *Gripsholm,* Gothenburg, 414 rolls; Keuffel & Esser Co., *Washington,* Hamburg, 41 cs.; ———, *Hamburg,* Hamburg, 148 rolls, 40 bls.

RAGS, BAGGINGS, ETC.

G. M. Graves Co. Inc., *Tuscania,* Glasgow. 73 bls. bagging; Darmstadt Scott & Courtney, *Statendam,* Rotterdam, 10 bls. bagging; ———, *Leerdam,* Rotterdam, 130 bls. bagging, 138 bls. rags; ———, *Leerdam,* Rotterdam, 130 bls. cotton waste; W. Garretson, *Hoegh Merchant* Shanghai, 480 bls. rags; New England Waste Co., *Hoegh Merchant,* Shanghai, 150 bls. pickers; H. Schimmel, *Hoegh Merchant,* Shanghai, 125 bls. cotton waste; Wiping Products Co., *Hoegh Merchant,* Shanghai, 150 bls. thread waste; Darmstadt Scott & Courtney, *Hoegh Merchant,* Shanghai, 8 bls. thread waste; Loumar Textile By Products Co., *Carplaka,* Gdynia, 270 bls. bagging; R. Blank, *Carplaka,* Helsingfors, 195 bls. rags; E. J. Keller Co. Inc., *Carplaka,* ———, 114 bls. rags; Castle & Overton, Inc., *Exminster,* Piraeus, 317 bls. rags; J. T. Flannery, *Collamar,* Havre, 240 bls. rags; Castle & Overton, Inc., *Collamer,* Dunkirk, 110 bls. jute waste; S. Shapiro & Sons, *Collamer,* Dunkirk, 57 bls. paper stock; ———, *Pr. Harding,* Hamburg, 319 bls. rags; ———, *Exmouth,* Algiers, 246 bls. rags; Irving Trust Co., *Pennland,* Antwerp, 119 bls. bagging; ———, *Carinthia,* Liverpool, 75 bls. rags; Loumar Textile By Products Co., *Black Osprey,* Rotterdam, 40 bls. bagging; ———, *Black Osprey,* Rotterdam, 70 bls. bagging; R. Blank, *Black Osprey,* Rotterdam, 73 bls. rags; E. J. Keller Co. Inc., *Black Osprey,* ———, 226 bls. rags; Philadelphia National Bank, *New York,* Hamburg, 89 bls. rags; J. Cohen & Son, Inc., *American Banker,* London, 25 bls. jute waste; Irving Trust Co., *American Banker,* London, 5 bls. rags; Chase National Bank, *Washington,* Hamburg, 169 bls. jute card waste; E. J. Keller Co. Inc., *Excalibur,* ———, 487 bls. rags; J. T. Flannery, *Excalibur,* Alexandria, 54 bls, bagging, ———, *Excalibur,* Alexandria, 225 bls. rags; W. Steck & Co., *Excalibur,* Alexandria, 238 bls. rags, 45 bls. bagging; Banco Com'l Italiane Trust Co., *Excalibur,* Alexandria, 33 bls. rags; R. Blank *Excalibur,* Alexandria, 90 bls, bagging; S. Shapiro & Sons, *Batory,* Gdynia, 136 bls. rags; ———, *Batory,* Gdynia, 84 bls. rags; Philadelphia National Bank, *Minnequa,* Gdynia, 57 bls. rags.

BONE GLUE

N. L. Lederer, Inc., *Pr. Harding,* Hamburg, 200 bags; ———, *Hamburg,* Hamburg, 200 bags.

HIDE TRIMMINGS

Eastman Kodak Co., *Carinthia,* Liverpool, 556 bags.

OLD ROPE

W. Steck & Co., *Black Osprey,* Rotterdam, 39 coils; Manufacturers Trust Co., *American Banker,* London, 117 bls., 45 coils Birkenstein & Long, *American Banker,* London, 71 coils.

CASEIN

Balfour Guthrie & Co., *E. Francqui,* Antwerp, 358 bags; ———, *Berengaria,* Southampton, 334 bags; ———, *Southern Prince,* Buenos Ayres, 84 bags; ———, *Washington,* Havre, 619 bags.

CHINA CLAY

English China Clays Sales Corp., *Carinthia,* Liverpool, 20 casks; J. Dixon Crucible Co., *Hamburg,* Hamburg, 500 bags.

WOODPULP

Perkins Godwin & Co., *Carplaka,* Sundsvall, 1500 bls. sulphite, 250 tons; Perkins Goodwin & Co., *Carplaka* Sundsvall, 900 bls. sulphate 150 tons; Lagerloef Trading Co., *Carplaka,* Rauma, 1267 bls. sulphate, 215 tons; Lagerloef Trading Co., *Carplaka,* Rauma, 1512 bls. sulphite, 256 tons; Johaneson Wales & Sparre, Inc., *Kungsholm,* Gothenburg, 100 bls. sulphate; Johaneson Wales & Sparre, Inc., *Kungsholm,* Gothenburg, 127 bls. sulphite; Perkins Goodwin & Co., *Kungsholm,* Gothenburg, 1016 bls. kraft pulp; ———, *Olaf Bergh,* Hernosand, 900 bls. sulphite 150 tons; ———, *Olaf Bergh,* Hernosand 12221 bls. sulphate, 2061 tons; Bulkley Dunton & Co., *Olaf Bergh,* ———, 9700 bls. wood plup 1825 tons; Johaneson Wales & Sparre, Inc., *Olaf Bergh,* Soderhamn, 750 bls. sluphate 150 tons; Johaneson Wales & Sparre, Inc., *Olaf Bergh,* Sundsvail, 2575 bls. sulphite 450 tons; Johaneson Wales & Sparre, Inc., *Olaf Bergh,* Sundsvall, 125 bls. chemical pulp 25 tons; Mead Sales Co. Inc., *Olaf Bergh,* Sundsvall, 210 bls. chemical plup, 42 tons; Mead Sales Co. Inc., *Olaf Bergh,* Sundsvall, 210 bls. sulphite, 42 tons; Irving Trust Co., *Alssund,* Hernosand, 600 bls. sulphite, 100 tons; Central Hanover Bank Trust Co., *Alssund,* Hernosand, 150 bls. sulphite, 25 tons; Bank of The Manhattan Co., *Alssund,* Hernosand, 300 bls. sluphite, 50 tons; G. H. MacFadden & Bro., *New York,* Hamburg, 700 bls. wood pulp, 140 tons; Castle & Overton, Inc., *New York,* Hamburg, 100 bls. wood pulp, 20 tons; Bulkley Dunton & Co., *Gripsholm,* Gothenburg, 200 bls. wood pulp; E. M. Seargent Pulp & Chemical Co., Inc., *Gripsholm,* Gothenburg, 748 bls. kraft soda pulp; ———, *Washington,* Hamburg, 102 bls. wood pulp, 10 tons; Perkins Goodwin & Co., *Minnequa,* Gdynia, 600 bls. wood pulp, 92 tons.

PULP BOARDS

Salwen Paper Co., *Kungsholm,* Gothenburg, 19 bls.; H. Fuchs & Son, *Kungsholm,* Gothenburg, 96 crates; ———, *Hamburg,* Hamburg, 200 bls., 20 tons; Jay Madden Corp., *Monnequa,* Wiborg, 69 bls., 11 tons.

WOOD PULP SHEETS

———, *New York,* Hamburg, 68 bls.

## NEWARK IMPORTS

WEEN ENDING MAY 30, 1936

H. G. Craig Co., *Donpaco,* Donnacona, 344 rolls newsprint.

## ALBANY IMPORTS

WEEK ENDING MAY 30, 1936

Bulkley Dunton & Co., *Olaf Bergh,* ———, 2900 bls. wood pulp, 500 tons; Perkins Goodwin & Co., *Olaf Bergh,* Soderhamn, 500 bls. sulphite, 100 tons; Perkins Goodwin & Co., *Olaf Bergh,* Soderhamn, 2750 bls sulphate, 550 tons; Johaneson Wales & Sparre, Inc., *Olaf Bergh,* Sundsvall, 750 bls. chemical pulp, 150 tons; Johaneson Wales & Sparre, Inc., *Olaf Bergh,* Sundsvall, 1420 bls. sulphite, 270 tons; Johaneson Wales & Sparre, Inc., *Olaf Bergh,* Sundsvall, 150 bls. sulphate, 25 tons; Tradesmans Natl. Bank Trust Co., *Alssund,* Norrsundet, 7625 bls. sulphate, 1665 tons; ———, *Allsund,* Kopmanholmen, 1071 bls. chemical pulp, 175 tons; Price & Pierce, Ltd., *Alssund,* Hernosand, 3000 bls. sulphite, 508 tons; ———, *Alssund,* Hernosand, 900 bls. sulphite, 150 tons; Bank of N. Y. Trust Co., *Alssund,* Hernosand, 2610 bls. sulphate, 441 tons; Gottesman & Co. Inc., *Alssund,* Iggesund, 600 bls. sulphite, 120 tons; Bulkley Dunton & Co., *Alssund,* ———, 1625 bls. wood pulp, 325 tons.

## NEW LONDON IMPORTS

WEEK ENDING MAY 30, 1936

Johaneson Wales & Sparre, Inc., *Olaf Bergh,* Sundsvall, 500 bls. sulphite 100 tons; ———, *Olaf Bergh,* Sundsvall, 750 bls. sulphite, 125 tons.

## PORTLAND IMPORTS

WEEK ENDING MAY 30, 1936

Gottesman & Co. Inc., *Kelkheim,* Sweden, 1000 bls. wood pulp; Gottesman & Co. Inc., *Georgia,* Norway, 1050 bls.

wood pulp; Gottesman & Co. Inc., *Boren,* Sweden, 5700 bls. wood pulp.

### BOSTON IMPORTS

WEEK ENDING MAY 30, 1936

Castle & Overton, Inc., *Leerdam,* Rotterdam, 155 bls. wood pulp; G. F. Malcolm, Inc., *Carinthia,* Liverpool, 19 cs. tissue paper; F. S. Webster Co., *Carinthia,* Liverpool, 19 cs. tissue paper; E. J. Keller Co. Inc., *Excalibur,* ———, 192 bls. rags; E. J. Keller Co. Inc., *Excalibur,* ———, 63 bls. bagging; Bulkley Dunton & Co., *Greisheim,* ———, 4875 bls. wood pulp.

### PHILADELPHIA IMPORTS

WEEK ENDING MAY 30, 1936

J. M. Hagy Waste Works, *Hoegh Merchant,* Kobe, 75 bls. rags; Chase National Bank, *Hoegh Merchant,* Kobe, 167 bls. rags; Gottesman & Co. Inc., *Carplaka,* Copenhagen, 500 bls. sulphite, 101 tons; F. L. Smidth & Co., *Carplaka,* Copenhagen, 270 bls. paper bags; Gottesman & Co. Inc., *Carplaka,* Sundsvall, 5400 bls. sulphate, 900 tons; Gottesman & Co. Inc., *Carplaka,* Sundsvall, 600 bls. mechanical pulp, 100 tons; Perkins Goodwin & Co., *Carplaka,* Sundsvall, 600 bls. sulphite, 100 tons; Lagerloef Trading Co., *Carplaka,* Rauma, 1100 bls. sulphite, 181 tons; ———, *Carplaka,* Rauma, 186 rolls wrapping paper; J. W. Hampton Jr. Co., *Carplaka,* Helsingfors, 349 rolls newsprint; J. Andersen & Co., *Carplaka,* Helsingfors, 600 bls. mechanical pulp, 101 tons; W. F. Sherwood & Son, *Collamer,* Havre, 60 bls. rags; Castle & Overton, Inc., *Collamer,* Havre, 134 bls. rags; ———, Collamer, Havre, 77 bls. rags; F. Weber & Co., *Collamer,* Havre, 1 cs. writing paper; De Dio Bros., *Collamer,* Dunkirk, 27 bls. rags; E. J. Keller Co. Inc., *Collamer,* ———, 330 bls. rags; ———, *Excalibur,* Alexandria, 32 bls. rags; Jay Madden Corp., *Minnequa,* Wiborg, 30 bls. wood pulp boards, 5 tons; J. W. Hampton Jr. Co., *Minnequa,* Kotka, 295 rolls newsprint; Bulkley Dunton & Co., *Greisheim,* ———, 250 bls. wood pulp; Bulkley Dunton & Co., *Karpfanger,* ———, 2000 bls. wood pulp; Parsons & Whittemore, Inc., *Kem,* ———, 3274 bls. wood pulp; Gottesman & Co. Inc., *Greisheim,* Sweden, 600 bls. wood pulp.

### WILMINGTON IMPORTS

WEEK ENDING MAY 30, 1936

E. J. Keller Co. Inc., *Carplaka,* ———, 666 bls. wood pulp, 100 tons; Lagerloef Trading Co., *Carplaka,* Rauma, 4042 bls. sulphite, 687 tons.

### BALTIMORE IMPORTS

WEEK ENDING MAY 30, 1936

———, *Leerdam,* Rotterdam, 470 bls. wood pulp; Congoleum Nairn Co., *Leerdam,* Rotterdam, 122 bls. rags; M. M. Morris, *Leerdam,* Rotterdam, 105 bls. wood pulp boards; American Express Co., *Leerdam,* Rotterdam, 60 coils old rope; Castle & Overton, Inc., *Leerdam,* Rotterdam, 584 bls. wood pulp; Philadelphia National Bank, *Hoegh Merchant,* Kobe, 250 bls. rags; ———, *Hoegh Merchant,* Kobe, 150 bls. rags; Congoleum Nairn Co., *Exmouth,* Marseilles, 1104 bls. rags; Congoleum Nairn Co., *Black Osprey,* Antwerp, 242 bls. rags; Congoleum Nairn Co., *Black Osprey,* Rotterdam, 232 bls. rags; Gottesman & Co. Inc., *Minnequa,* Stockholm, 600 bls. sulphite, 100 tons; Gottesman & Co. Inc., *Minnequa,* Helsinfors, 250 bls. mechanical pulp, 50 tons; Johaneson Wales & Sparre, Inc., *Minnequa,* Helsingfors, 625 bls. mechanical pulp, 127 tons; Castle & Overton, Inc., *Minnequa,* Wiborg, 5631 bls. wood pulp, 1127 tons; Jay Madden Corp., *Minnequa,* Wiborg, 35 bls. wood pup boards, 4 tons; ———, *Minnequa,* Kotka, 143 rolls newsprint; Hearst Consolidated Publications, Inc., *Minnequa,* Kotka, 329 rolls newsprint; Lagerloef Trading Co., *Minnequa,* Kotka, 1300 bls. mechanical pulp 260 tons; Jay Madden Corp., *Minnequa,* Kotka, 899 rolls newsprint; ———, *Minnequa,* Kotka, 1182 bls. wood pulp, 235 tons; Johaneson Wales & Sparre, Inc., *Minnequa,* Kotka, 1350 bls. wood pulp, 135 tons; M. Sone, *Minnequa,* Kotka, 254 bls. sulphite, 50 tons; Bulkley Dunton & Co., *Tai Yin,* ———, 4050 bls. wood pulp; Bulkley Dunton & Co., *City of Havre,* ———, 1200 bls. wood pulp.

### NORFOLK IMPORTS

WEEK ENDING MAY 30, 1936

N. Y. Trust Co., *Black Osprey,* Rotterdam, 232 bls. rags; Gottesman & Co. Inc., *Belos,* Sweden, 3000 bls. wood pulp.

### NEWPORT NEWS IMPORTS

WEEK ENDING MAY 30, 1936

Bulkley Dunton & Co., *Tai Yin,* ———, 1500 bls. wood pulp.

### NEW ORLEANS IMPORTS

WEEK ENDING MAY 30, 1936

Loumar Textile By Products Co. *Hoegh Merchant,* Kobe, 400 bls. bagging; ———, *Silverbeech,* Bombay, 90 bls. rags; Parsons & Whittemore, Inc., *West Harshaw,* ———, 215 bls. wood pulp.

### HOUSTON IMPORTS

WEEK ENDING MAY 30, 1936

Darmstadt Scott & Courtney, *Hoegh Merchant,* Kobe, 400 bls. bagging.

### GALVESTON IMPORTS

WEEK ENDING MAY 30, 1936

Burka Bagging Co., *Hoegh Merchant,* Kobe, 800 bls. bagging.

### MONTREAL IMPORTS

WEEK ENDING MAY 30, 1936

Gottesman & Co. Inc., *Korsholm,* Sweden, 7000 bls. wood pulp; Gottesman & Co., Inc., *Tyrifjord,* Sweden, 4150 bls. wood pulp; Gottesman & Co. Inc., *Dagmar Salen,* Sweden, 6300 bls. wood pulp.

## Holyoke Power Co. Settle Some Claims

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., June 2—Agreement has been reached between the Holyoke Water Power Company and the American Writing Paper Company by which a number of claims brought by the power company have been amicably settled. Robert E. Barrett signed for the water power company and Thomas H. Blodgett for the paper company. Settlement was made for $30,000 it is announced.

The only two unsettled matters are regarding the use of water from canals for processing paper and for the transfer of electricity from one mill to another. These matters are all expected to come up June 18-19 before the Federal Court at Boston.

## Instruments from the Executive Viewpoint

The Brown Instrument Company of Philadelphia, has just issued a booklet entitled: "Instruments from the Executive Viewpoint" which describes the part instruments and control play in modern industry. This is an exceedingly attractive piece of printing. It is profusely illustrated with handsome halftones and carries an interesting message. A copy may be had gratis on request to the company.

## New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, June 3, 1936.

Trading in the local paper market during the past week was moderately active. Supplies continue to move into consumption in fairly good volume for the time of year. Sales forces of the leading paper organizations express optimism regarding the future. Prices are holding to schedule, in most instances.

The newsprint paper market is exhibiting a stronger undertone. Advertising lineage and circulations of the leading newspapers are running ahead of last year's record. Production in the United States, Canada and Newfoundland is proceeding in sufficient volume to take care of current requirements. Prices remain unchanged.

Sentiment in the fine paper market is improving. Demand for book, cover, bond and ledger papers is satisfactory for the season. Tissues are going forward at a steady pace. The coarse paper market is firm. Demand for summer specialties is expanding. The paper board market is fairly active, with no radical price changes reported.

### Mechanical Pulp

The position of the ground wood pulp market is practically unchanged. Demand from the paper mills is light at present and manufacturing operations in North America and abroad are keyed to consumption, as far as possible. Inquiries for future delivery are fairly numerous. Prices are generally holding to formerly quoted levels.

### Chemical Pulp

Steadiness prevails in the chemical pulp market. Demand for both domestic and imported grades is persistent for the time of year. Bleached sulphite and kraft pulp continue very strong, with offerings scarce, and prices firm. More interest is being displayed in the bleachable grades of unbleached sulphite.

### Old Rope and Bagging

The old rope market continues quiet. Paper mill demand for foreign and domestic old manila rope is restricted. Mixed strings are moderately active. Old rope prices remain unchanged. Some improvement transpired in the bagging market. Scrap and gunny bagging are slightly more active. Roofing bagging is in seasonal request.

### Rags

Business in the domestic rag market is rather dull at present. Demand for old and new cotton rags is light. Quotations are spotty. Purchasers abroad are watching the trend of No. 1 white shirt cuttings, hoping for lower prices. Should quotations decline materially there would probably be a rush of foreign orders, which would automatically create firmness.

### Waste Paper

The paper stock market is beginning to attract more interest. Board mill demand for the lower grades is better. Strictly folded news is firmer, while No. 1 mixed paper is steady. The higher grades of paper stock are displaying strength. Request for white envelope cuttings, and hard and soft white shavings is satisfactory for the season.

### Twine

No radical changes transpired in the twine market. Demand for the various varieties is considered good for the time of year. Shipments are going forward with regularity. The outlook for the future is encouraging, with the busiest months of the year to come. Prices are generally steady and unchanged and reports of shading are infrequent.

---

## Pulp Mills Urged for Black Hills

Pulp mills are urged as a new Black Hills industry by Fred Beardshear, who is head of the timber department of the famous Homestake gold mine in Lead, according to a press dispatch from Lead, S. D. He is able to furnish many interesting facts concerning forestry in the Black Hills. His experience began 50 years ago, when as a boy he came to the Black Hills with his father, who freighted a sawmill into this region by ox-team.

Mr. Beardshear expresses the opinion that the small growth timber now being cut out throughout the Black Hills could be utilized for manufacturing paper pulp. He stated there are today 1,000,000 acres of timber in the Black Hills, and that from each acre there is being cut in the thinning process an average of 600 cubic feet of timber per acre.

If this were utilized for pulp purposes it would be worth millions of dollars, in his opinion. From a survey made by Mr. Beardshear in company with another forester, he concluded there would be constant small growth timber to supply two 100-ton-per-day pulp mills. These, he said, would employ hundreds of men. It is Mr. Beardshear's opinion that this field should be explored as the source of what might become one of the most profitable industries of the Black Hills.

---

## Pacific Paper Dealers Elect Officers

At the recent convention of the Pacific States Paper Trade Association held at Del Monte, Cal., the following officers were elected:—

President, Mr. Walter W. Huelat, Blake, Moffitt & Towne, Los Angeles, Cal.; Executive First Vice President, Victor E. Hecht, Zellerbach Paper Company, San Francisco, Cal.; Vice Presidents, Roy E. Banks, Long Beach Paper & Notion Company, Long Beach, Cal., Frank E. Jeffries, Tacoma Paper & Stationery Company, Tacoma, Wash., John E. Jones, Western Newspaper Union, Salt Lake City, Utah, J. W. P. McFall, Portland, Ore., A. B. Rogers, Spokane Paper and Stationery Company, Spokane, Wash.; Secretary-Treasurer, H. Arthur Dunn, 311 California street, San Francisco, Cal.

# Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, June 3, 1936.

BLANC FIXE—Steadiness prevails in the blanc fixe market. Prices are holding to formerly quoted levels. The pulp is quoted at $42.50 to $45 per ton, in bulk; while the powder is selling at 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—The position of the bleaching powder market is practically unchanged. Shipments against contract are moving in seasonal volume. Prices continue steady. Bleaching powder is quoted at $2 to $2.25 per 100 pounds, in drums, at works.

CASEIN—The casein market is steady. Domestic standard ground is quoted at 14½ and finely ground at 15; Argentine standard ground at 14 7/10 and finely ground at 14 95/100; French standard ground at 15 and finely ground at 15½ cents per pound, in bags, car lot quantities.

CAUSTIC SODA—Demand for caustic soda is fairly persistent. The contract movement is well up to average for the season. Solid caustic soda is quoted at $2.55 to $2.60; while the flake and ground are selling at $2.95 to $3 per 100 pounds, in drums, at works.

CHINA CLAY—The china clay market is exhibiting a fairly strong undertone. Contract shipments are going forward regularly. Imported china clay is quoted at $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at $6.50 to $12 per ton, at mine.

CHLORINE—Paper mill demand for chlorine is brisk. Shipments against contract are moving freely. Prices are steady to firm and reports of concessions are infrequent. Chlorine is quoted at $2.15 to $2.55 per 100 pounds, in tank cars, at works.

ROSIN—The rosin market is firmer. Paper making gum rosin is now quoted at $4.30 and wood rosin at $4.30 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size is selling at $2.51 per 100 pounds, in tank cars, at works.

SALT CAKE—Supplies of salt cake are moving into consumption in good volume. Prices are holding to schedule. Sale cake is quoted at $12 to $13; chrome salt cake at $11 to $12 per ton, at works. Imported salt cake is selling at $12 to $13 per ton, ship side.

SODA ASH—The soda ash market is displaying strength. The contract movement is considered satisfactory. Prices are steady to firm. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH—Conditions in the starch market are little changed. The prevailing demand from the paper mills is normal for the time of year. Special paper making starch is quoted at $3.20 per 100 pounds, in bags; and at $3.47 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA—The sulphate of alumina market continues firm. Demand from the paper mills is well sustained. Prices are holding to schedule. Commercial grades are quoted at $1.35 to $1.60; and iron free at $2 to $2.25 per 100 pounds, in bags, at works.

SULPHUR—The sulphur market is steady. Yearly contracts are quoted at $18 per ton, in bulk, on orders of 1,000 tons, or over and $20 on smaller quantities. On spot and nearby car loads the quotation is $21 per ton. All quotations are in car lots, at works.

TALC—Most of the business transacted in the talc market during the past week was along routine lines. Prices remain unchanged. Domestic talc is quoted at $16 to $18 per ton, at eastern mines; while imported talc is selling at $23 to $30 per ton, on dock.

# Market Quotations

## Paper

**Rag Content Bond & Ledgers—Delivered Zone 1**

| | Bonds | Ledgers |
|---|---|---|
| 100% Rag Ext. No. 1 | .36 | .37 |
| 100% Rag | .28 | .29 |
| 75% Rag | .21 | .22 |
| 65% Rag | .18 | .19 |
| 50% Rag | .15 | .16 |
| 25% Rag | .12½ | .13½ |

**Sulphite Bond & Ledgers—Delivered Zone 1**

| | Bonds | Ledgers |
|---|---|---|
| No. 1 Sulphite | 7.75 | 8.75 |
| No. 2 Sulphite | 6.75 | 7.75 |
| No. 3 Sulphite | 6.00 | 7.00 |
| No. 4 Sulphite | 5.50 | 6.50 |

**Book, Cased—**

| | | |
|---|---|---|
| S. & S. C. | 5.35 @ | 5.75 |
| S. & S. C. Litho | 5.60 @ | 6.00 |
| M. F. | 5.10 @ | 5.50 |
| Coated and Enamel | 5.90 @ | 6.55 |
| Coated Litho | 5.90 @ | 6.55 |

**Tissues—Per Ream—**

| | | |
|---|---|---|
| White No. 1 | .82½ @ | — |
| White No. 1 M. G. | .77½ @ | — |
| White No. 1½ | .62½ @ | — |
| White No. 2 | .60 @ | — |
| Anti-Tarnish M. G. | .67½ @ | — |
| Colored | .80 @ | — |
| Kraft | .67½ @ | — |
| Manila | .60 @ | — |
| Unbleached Toilet | 2.60 @ | 3.30 |
| Bleached Toilet | 3.94 @ | 5.26 |

**Paper Towels—**

| | | |
|---|---|---|
| Unbleached | 2.10 @ | 3.35 |
| Bleached | 3.30 @ | 3.70 |

**Manila—**

| | | |
|---|---|---|
| No. 1 Jute | 9.00 @ | 9.25 |
| No. 2 Jute | 7.75 @ | 8.50 |
| No. 1 Wood | 4.00 @ | 5.25 |
| No. 2 Wood | 3.50 @ | 4.00 |

**Fibre Papers—**

| | | |
|---|---|---|
| No. 1 Fibre | 4.25 @ | 5.50 |
| No. 2 Fibre | 4.00 @ | 4.75 |

**(Delivered New York)**

**News, per ton—**

| | | |
|---|---|---|
| Roll, contract | 41.00 @ | — |
| Sheets | 46.00 @ | — |

**Kraft—**

| | | |
|---|---|---|
| No. 1 Northern | 4.25 @ | 4.75 |
| Standard | 4.12½ @ | — |
| Southern | 4.00 @ | — |

**Boards—per ton—**

| | |
|---|---|
| News | 32.50 @35.00 |
| Chip | 32.50 @35.00 |
| Sgl. Mla. Ll. Chip. | 45.00 @47.50 |
| Jute Lined Chip | 42.50 @45.00 |
| Kraft Liners | 60.00 @62.50 |
| White Pat. Coated | 55.00 @57.50 |
| Binders Boards | 67.00 @75.00 |

## Mechanical Pulp

**(On Dock, Atlantic Ports)**

| | | |
|---|---|---|
| No. 1 Imported—Moist | 23.00 | @24.00 |
| Dry | 23.00 | @24.00 |
| **(Delivered)** | | |
| No. 1 Domestic and Canadian | 27.00 | @28.00 |

## Chemical Pulp

**(On Dock, Atlantic, Gulf and West Coast Ports)**

| | | |
|---|---|---|
| Bleached Sulphite (Domestic and Foreign)— | | |
| Division 1 | 2.60 | @ 3.10 |
| Division 2 | 2.55 | @ 2.65 |
| Division 3 | 2.50 | @ 2.60 |
| Prime Qualities— | | |
| Class 1. All Prime Easy Bleaching | 2.05 | @ 2.10 |
| Other Than Easy Bleaching— | | |
| Class 2. Higher than Standard | 2.00 | @ 2.05 |
| Class 3, Standard | 1.95 | @ 2.00 |
| Class 4. Lower than Standard | 1.90 | @ 1.95 |
| **(On Dock, Atlantic Ports)** | | |
| Kraft No. 1 | 1.85 | @ 2.00 |
| Kraft No. 2 | 1.70 | @ 1.80 |
| **(F. o. b. Pulp Mill)** | | |
| Kraft Domestic | 1.80 | @ 1.90 |
| **(Delivered)** | | |
| Soda Bleached | 2.60 | @ — |

* Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

## Domestic Rags

**New Rags**

**(Prices to Mill f. o. b. N. Y.)**

| | | |
|---|---|---|
| Shirt Cuttings— | | |
| New White, No. 1 | 7.85 @ | 8.00 |
| Silesias No. 1 | 5.50 @ | 5.75 |
| New Unbleached | 8.25 @ | 8.50 |
| New Soft Blacks | 3.75 @ | 4.00 |
| Blue Overall | 5.75 @ | 6.00 |
| Fancy | 3.25 @ | 3.50 |
| Washables | 2.25 @ | 2.50 |
| Mixed Khaki Cuttings | 3.50 @ | 3.75 |
| O. D. Khaki Cuttings | 4.25 @ | 4.50 |
| Men's Corduroy | 2.00 @ | 2.25 |
| New Mixed Blacks | 2.75 @ | 3.00 |

**Old Rags**

| | | |
|---|---|---|
| White, No. 1— | | |
| Repacked | 3.00 @ | 3.50 |
| Miscellaneous | 2.75 @ | 3.25 |
| White, No. 2— | | |
| Repacked | 1.75 @ | 2.25 |
| Miscellaneous | 1.50 @ | 1.75 |
| Thirds and Blues— | | |
| Repacked | 2.25 @ | 2.50 |
| Miscellaneous | 2.10 @ | 2.20 |
| Roofing Rags— | | |
| No. 1 | 1.80 @ | 1.85 |
| No. 2 | 1.45 @ | 1.50 |
| No. 3 (bagging) | 1.35 @ | 1.40 |
| No. 4 | 1.30 @ | 1.35 |
| No. 5A | .90 @ | 1.00 |

## Foreign Rags

**New Rags**

| | | |
|---|---|---|
| New Dark Cuttings | 2.25 @ | 2.50 |
| New Mixed Cuttings | 2.00 @ | 2.25 |
| New Light Silesias | 4.50 @ | 5.00 |
| Light Flannelettes | 4.50 @ | 5.00 |
| New White Cuttings | 7.00 @ | 7.50 |
| New Light Oxfords | 4.00 @ | 4.50 |
| New Light Prints | 3.00 @ | 3.25 |

**Old Rags**

| | | |
|---|---|---|
| No. 1 White Linens | 7.50 @ | 8.00 |
| No. 2 White Linens | 6.50 @ | 7.00 |
| No. 3 White Linens | 4.50 @ | 5.00 |
| No. 4 White Linens | 2.25 @ | 2.50 |
| No. 1 White Cotton | 4.25 @ | 4.75 |
| No. 2 White Cotton | 3.25 @ | 3.75 |
| No. 3 White Cotton | 2.50 @ | 2.75 |
| No. 4 White Cotton | 1.90 @ | 2.15 |
| Extra Light Prints | 2.00 @ | 2.25 |
| 3rd. Light Prints | 1.75 @ | 1.85 |
| Med. Light Prints | 1.55 @ | 1.65 |
| Dutch Blue Cottons | 2.25 @ | 2.50 |
| French Blue Linens | 3.50 @ | 4.00 |
| German Blue Linens | 2.50 @ | 2.75 |
| German Blue Cottons | 2.00 @ | 2.25 |
| Checks and Blues | 2.00 @ | 2.25 |
| Linsey Garments | 2.50 @ | 2.60 |
| Dark Cottons | 2.00 @ | 2.35 |
| Old Shopperies | 1.75 @ | 2.00 |
| New Shopperies | 1.75 @ | 2.00 |
| French Blues | 2.25 @ | 2.50 |

## Old Rope and Bagging

**(Prices to Mill f. o. b. N. Y.)**

| | | |
|---|---|---|
| Gunny No. 1— | | |
| Foreign | 2.10 @ | 2.15 |
| Domestic | 2.00 @ | 2.10 |
| Wool Tares, light | 1.50 @ | 1.75 |
| Wool Tares, heavy | 1.85 @ | 2.05 |
| Bright Bagging | 1.75 @ | 1.80 |
| Manila Rope— | | |
| Foreign | 2.35 @ | 2.45 |
| Domestic | 2.25 @ | 2.35 |
| Mixed Strings | 1.10 @ | 1.15 |
| New Burlap Cut | 2.50 @ | 2.75 |
| Hessian Jute Threads | | |
| Foreign | 2.60 @ | 2.75 |
| Domestic | 2.80 @ | 3.00 |

## Old Waste Papers

**(F. o. b. New York)**

| | | |
|---|---|---|
| Shavings— | | |
| White Envelope Cuttings | 2.55 @ | 2.65 |
| Ordinary Hard White No. 1 | 2.25 @ | 2.35 |
| Hard White No. 2 | 2.10 @ | 2.20 |
| Soft White No. 1 | 2.05 @ | 2.15 |
| Flat Stock— | | |
| Stitchless | .65 @ | .75 |
| Over issue Mag | .65 @ | .75 |
| Solid Flat Book | .55 @ | .60 |
| Crumpled No. 1 | .35 @ | .40 |
| Solid Book Ledger | 1.50 @ | 1.65 |
| Ledger Stock | .85 @ | .90 |
| New B. B. Chips | .30 @ | .35 |
| Manilas— | | |
| New Env. Cut | 1.75 @ | 1.85 |
| New Cuttings | 1.35 @ | 1.45 |
| Bogus Wrapper | .40 @ | .50 |
| Old Kraft Machine— | | |
| Compressed bales | 1.25 @ | 1.35 |
| News— | | |
| No. 1 White News | 1.30 @ | 1.40 |
| Strictly Overissue | .50 @ | .60 |
| Strictly Folded | .30 @ | .35 |
| No. 1 Mixed Paper | .20 @ | .25 |

**BETTER**

*because it's CRODON-plated*

THE established endurance and recognized utility of CRODON challenges comparison with ordinary chromium plating. There is no compromise with quality . . . we offer CRODON, not on a price basis commensurate with less serviceable plating of uncertain merit, but as your assurance of the most practical and economical service available.

Chromium Corporation of America

New York — Waterbury — Cleveland — Chicago

HALF AGAIN

*as much shower-pipe velocity*

*—No increase in pressure*

IN a Rainstorm, two small streams impinge at a predetermined angle—give a flat spray with nearly 50% increased velocity. Here's a cost-saving you can use. Write S & W for bulletin.

*The* SMITH & WINCHESTER MFG. Co.

SOUTH WINDHAM, CONNECTICUT

**RAG CUTTERS**

TAYLOR, STILES & COMPANY

TRADE MARK

**GIANT**

REG. U.S. PAT. OFF.

RIEGELSVILLE, N.J. U.S.A.

**CHOPPERS — SHREDDERS**

**CAMACHINE 18**

for Paper and Board Mill use as Winder or Rewinder

Standard Widths 82 to 162

Winds Rolls 42 or 60 in Diameter

Operating Speed up to 2 000 F.P.M.

CAMERON MACHINE COMPANY

61 Poplar St. BROOKLYN, N.Y.

**HIGHEST GRADE**

**CLAYS**

PAPER MAKERS IMPORTING CO. INC. EASTON, PENNSYLVANIA, U.S.A.

**COATING FILLING**

**POWDERED**

**LINDSAY WIRES**

**Longcrimp, Spiral Weave**

**Modified Longcrimp**

**Duo-Wear and Regular Weave**

***They are all "Live Wires"***

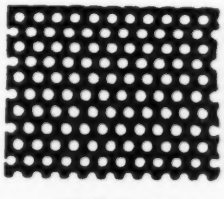
THE LINDSAY WIRE WEAVING COMPANY

14025 Aspinwall Ave., Cleveland, Ohio

**Perforated Metal Screens**

**For Pulp and Paper Mills**

STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.



".065" Round

CHARLES MUNDT & SONS

63-65 FAIRMONT AVE. JERSEY CITY, N. J.

### Twines

(F. o. b. Mill)

(Soft Fibre)

| | | | |
|---|---|---|---|
| **Coarse Polished—** | | | |
| India | .13¼ | @ | .15¾ |
| Belg. White Hemp | .14¼ | @ | .17¾ |
| India Compress | .13¾ | @ | .14¼ |
| **Fine Polished—** | | | |
| Fine India | .21½ | @ | .23½ |
| Special | .19½ | @ | .21½ |
| **Unpolished—** | | | |
| Box | .12 | @ | .12½ |
| Paper Makers | .09 | @ | .13½ |
| Tube Rope | .10 | @ | .15½ |
| Wall Paper | .11 | @ | .14½ |
| Wrapping | .15½ | @ | .21 |
| Special | .15 | @ | .15½ |
| Soft Fiber Rope | .12½ | @ | .12¾ |

(Hard Fibre)

| | | | |
|---|---|---|---|
| Bond | .12 | @ | .20½ |
| Anchor | .11½ | @ | .13 |
| Manila | .21 | @ | .2[illegible] |

## CHICAGO

### Paper

(F. o. b. Mill)

| | | | |
|---|---|---|---|
| Rag Bond | .12 | @ | .40 |
| Water Marked Sulphite Bond | .06¾ | @ | .11 |
| Sulphite Bond | .05½ | @ | .07¾ |
| Superfine Writing | .18 | @ | .24 |
| No. 1 M. F. Book | .06½ | @ | .07¾ |
| No. 2 M. F. Book | .05¼ | @ | .06¾ |
| No. 1 S.&S.C. Book | .06¾ | @ | .07¾ |
| No. 2 S.&S.C. Book | .05¾ | @ | .06½ |
| Coated Book | .07 | @ | .12 |
| Coated Label | .07 | @ | .08½ |
| No. 1 Manila | .04¼ | @ | .05¾ |
| No. 1 Fibre | .04¾ | @ | .05¼ |
| No. 2 Manila | .04¼ | @ | .04¾ |
| Butcher's Manila | .03¼ | @ | .03¾ |
| No. 1 Kraft | 4.75 | @ | 5.00 |
| Southern Kraft | 3.88 | @ | 4.25 |
| No. 2 Kraft | 3.88 | @ | 4.25 |
| Wood Tag Boards | .04¼ | @ | .06¼ |
| Sulphite Screenings | .03 | @ | .03¼ |
| Manila Tissue | .05¾ | @ | .07 |
| White Tissue | .07 | @ | .09 |

(Delivered Central Territory)

| | | | |
|---|---|---|---|
| News, per ton— | | | |
| Rolls, contract | 42.00 | @ | — |
| Sheets, open | 47.00 | @ | — |
| Boards, per ton— | | | |
| Plain Chip | 46.50 | @ | — |
| Solid News | 50.00 | @ | — |
| Manila Lined Chip | 55.00 | @ | — |
| Patent Coated | 65.00 | @ | — |
| Container Lined— | | | |
| 85 Test, per 1000 sq. ft. | | | 1.70 |
| 100 Test, per 1000 sq. ft. | | | 1.85 |

### Old Papers

(F. o. b. Chicago)

| | | | |
|---|---|---|---|
| **Shavings—** | | | |
| No. 1 White Envelope Cuttings | 1.70 | @ | 2.00 |
| No. 1 Hard White | 1.40 | @ | 1.65 |
| No. 1 Soft White | 1.25 | @ | 1.50 |
| Ledger & Writings | .60 | @ | .70 |
| Solid Books | .50 | @ | .60 |
| Blanks | 1.00 | @ | 1.05 |
| Krafts | .80 | @ | .90 |
| New Kraft Cuts | 1.20 | @ | 1.30 |
| Manila Env. Cuts | 1.25 | @ | 1.30 |
| Ex. No. 1 Manila | .90 | @ | 1.00 |
| Print Manila | .40 | @ | .50 |
| Overissue News | .40 | @ | .45 |
| **Old Newspapers—** | | | |
| No. 1 | .30 | @ | .35 |
| No. 1 Mixed Paper | .25 | @ | .30 |
| **Roofing Stocks—** | | | |
| No. 1 | 30.00 | @ | — |
| No. 2 | 28.00 | @ | — |

## PHILADELPHIA

### Paper

Rag Content Bond & Ledgers—
Delivered Zone 1

| | Bonds | Ledgers |
|---|---|---|
| 100% Rag Ext. No. 1 | .36 | .37 |
| 100% Rag | .28 | .29 |
| 75% Rag | .21 | .22 |
| 65% Rag | .18 | .19 |
| 50% Rag | .15 | .16 |
| 25% Rag | .12½ | .13½ |

Sulphite Bond & Ledgers—
Delivered Zone 1

| | Bonds | Ledgers |
|---|---|---|
| No. 1 Sulphite | 7.75 | 8.75 |
| No. 2 Sulphite | 6.75 | 7.75 |
| No. 3 Sulphite | 6.00 | 7.00 |
| No. 4 Sulphite | 5.50 | 6.50 |

F.o.b. Mill

| | | | |
|---|---|---|---|
| Book, M. F. | 5.00 | @ | — |
| Book, S. S. & C. | 5.25 | @ | — |
| Book, Coated | 6.15 | @ | — |
| Coated Lithograph | 6.15 | @ | — |
| No. 1 Jute Manila | 10.50 | @ | — |
| Manila Sul., No. 1 | 6.75 | @ | — |
| Manila No. 2 | 4.25 | @ | — |
| No. 1 Kraft | 6.00 | @ | — |
| Southern Kraft | 5.00 | @ | — |
| News Print Rolls | 40.00 | @ | — |
| Straw Board | 40.00 | @ | 45.00 |
| News Board | 40.00 | @ | — |
| Chip Board | 37.50 | @ | — |
| Wood Pulp Board | 70.00 | @ | 85.00 |
| Binder Boards— | | | |
| No. 1, per ton | 75.00 | @ | 80.00 |
| No. 2, per ton | 70.00 | @ | 75.00 |
| Carload lots | 65.00 | @ | 70.00 |
| Tarred Felts— | | | |
| Regular | 52.25 | @ | 54.25 |
| Slaters (per roll) | .84 | @ | .94 |

### Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

| | | | |
|---|---|---|---|
| **Shirt Cuttings—** | | | |
| New White, No. 1 | .08 | @ | .08½ |
| New White, No. 2 | .04½ | @ | .05 |
| Light Silesias | .05½ | @ | — |
| Silesias, No. 1 | .04½ | @ | .05 |
| Black Silesias, soft | .03½ | @ | .04 |
| New Unbleached | .06 | @ | — |
| Washable, No. 1 | .02 | @ | .02½ |
| Blue Overall | .06 | @ | .06½ |
| **Cottons—According to grades—** | | | |
| Washable, No. 2 | .02½ | @ | .04½ |
| New Blue | .01¾ | @ | .02¼ |
| Fancy | .03 | @ | — |
| New Black Soft | .04 | @ | .04½ |
| New Light Seconds | .03½ | @ | .04 |
| New Dark Seconds | 1.75 | @ | 2.00 |
| Khaki Cuttings— | | | |
| No. 1 O. D. | .04 | @ | .04½ |
| No. 2 Mixed | .03½ | @ | .04 |
| Corduroy | .02 | @ | .02¼ |
| New Canvas | .04 | @ | .04½ |
| New Black Mixed | .02 | @ | .02¼ |

### Domestic Rags (Old)

| | | | |
|---|---|---|---|
| White No. 1— | | | |
| Repacked | 4.00 | @ | 4.50 |
| Miscellaneous | 3.00 | @ | 3.50 |
| Thirds and Blues— | | | |
| Miscellaneous | 2.00 | @ | — |
| Repacked | 2.25 | @ | 2.50 |
| Black Stockings (Export) | 4.50 | @ | 5.00 |
| Roofing Stock— | | | |
| Foreign No. 1 | 2.20 | @ | 2.25 |
| Domestic No. 1 | 1.80 | @ | 1.85 |
| Domestic No. 2 | 1.60 | @ | 1.65 |
| Roofing bagging | 1.30 | @ | — |

### Bagging

(F. o. b. Phila.)

| | | | |
|---|---|---|---|
| Gunny, No. 1— | | | |
| Foreign | 2.00 | @ | — |
| Domestic | 2.25 | @ | — |
| Manila Rope | 2.25 | @ | 2.50 |
| Sisal Rope | 2.00 | @ | 2.25 |
| Mixed Rope | 1.00 | @ | 1.10 |
| Scrap Burlaps— | | | |
| No. 1 | 2.00 | @ | 2.50 |
| No. 2 | .90 | @ | 1.00 |
| Wool Tares, heavy | 3.00 | @ | 3.25 |
| Mixed Strings | 1.00 | @ | 1.10 |
| No. 1 New Light Burlap | 3.00 | @ | 3.50 |
| New Burlap Cuttings | 2.50 | @ | 2.75 |

### Old Papers

(F. o. b. Phila.)

| | | | |
|---|---|---|---|
| **Shavings—** | | | |
| No. 1 Hard White | 2.30 | @ | 2.40 |
| No. 2 Hard White | 2.10 | @ | 2.20 |
| No. 1 Soft White | 1.80 | @ | 1.85 |
| No. 2 Soft White | 1.40 | @ | 1.45 |
| No. 1 Mixed | — | @ | .85 |
| Solid Ledger Stock | 1.50 | @ | 1.60 |
| Ledger Stock, white | 1.15 | @ | 1.20 |
| Ledger Stock, colored | .85 | @ | .90 |
| No. 1 Books, heavy | .65 | @ | .70 |
| Manila Cuttings | 1.50 | @ | 1.60 |
| Print Manila | .50 | @ | .60 |
| Container Manila | .50 | @ | .60 |
| Kraft Paper | 1.10 | @ | 1.20 |
| No. 1 Mixed Paper | .35 | @ | .40 |
| Straw Board Chip | .40 | @ | — |
| Binders Board Chip | .40 | @ | — |
| Corrugated Board | .60 | @ | .65 |
| Overissue News | .60 | @ | — |
| Old Newspapers | .40 | @ | — |

## BOSTON

### Paper

Rag Content Bond & Ledgers—
Delivered Zone 1

| | Bonds | Ledgers |
|---|---|---|
| 100% Rag Ext. No. 1 | .36 | .37 |
| 100% Rag | .28 | .29 |
| 75% Rag | .21 | .22 |
| 65% Rag | .18 | .19 |
| 50% Rag | .15 | .16 |
| 25% Rag | .12½ | .13½ |

Sulphite Bond & Ledgers—
Delivered Zone 1

| | Bonds | Ledgers |
|---|---|---|
| No. 1 Sulphite | 7.75 | 8.75 |
| No. 2 Sulphite | 6.75 | 7.75 |
| No. 3 Sulphite | 6.00 | 7.00 |
| No. 4 Sulphite | 5.50 | 6.50 |

F.o.b. Mill

| | | | |
|---|---|---|---|
| Book, Super | .06 | @ | .09 |
| Book, M. F. | .05½ | @ | .08½ |
| Book, Coated | .08½ | @ | .18 |
| Coated Litho | .09 | @ | .12 |
| Jute Manila No. 1 | .11 | @ | .13 |
| Manila, Sul. No. 1 | .04¼ | @ | .06½ |
| Manila, Sul. No. 2 | .03¾ | @ | .04½ |
| No. 1 Kraft | .04¼ | @ | — |
| No. 2 Kraft | .04¼ | @ | — |
| (Delivered New England points) | | | |
| Southern Kraft | .04 | @ | — |
| News Print Rolls | 39.50 | @ | — |
| Straw Board, rolls.009 | — | @ | 35.00 |
| Filled News Board | 40.00 | @ | 45.00 |
| Chip Board | 37.50 | @ | 40.00 |
| Single Manila Lined Chip | 47.50 | @ | 52.50 |
| Single White, Patent Coated News Board (Bender) | 55.00 | @ | 65.00 |
| Wood Pulp Board | 70.00 | @ | 75.00 |
| Binder Boards (Standard Grade) | 67.00 | @ | 75.00 |

### Old Papers

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| **Shavings—** | | | |
| No. 1 Hard White | 2.00 | @ | 2.20 |
| No. 1 Soft White | 1.75 | @ | 1.90 |
| No 2 Mixed | .75 | @ | .80 |
| Solid Ledger Books | 1.50 | @ | 1.75 |
| Overissue Ledger Stock | 1.15 | @ | 1.30 |
| Mixed Ledgers | .85 | @ | .90 |
| No. 1 Books, heavy | .60 | @ | .70 |
| No 1 Books, light | .50 | @ | .60 |
| Crumpled Stitchless Book Stock | .50 | @ | .60 |
| Manila Env. Cuttings | 1.50 | @ | 1.60 |
| No. 1 Old Manila | .60 | @ | .65 |
| White Blank News | 1.20 | @ | 1.25 |
| No. 1 Kraft | 1.10 | @ | 1.15 |
| Mixed Papers | .20 | @ | .25 |
| Print Manila | .45 | @ | .47½ |
| Container Manilas | .27½ | @ | — |
| Old Newspapers | .25 | @ | .27½ |
| Overissue News | — | @ | .40 |
| Box Board Chips | — | @ | 25 |
| Corrugated Boxes | .35 | @ | .37½ |
| Kraft corrugated boxes | .90 | @ | .95 |
| Screening Wrappers | .40 | @ | .45 |

### Bagging

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Manila Rope— | | | |
| Foreign | 2.35 | @ | 2.45 |
| Domestic | 2.25 | @ | 2.35 |
| Transmission Rope | 1.20 | @ | 1.30 |
| Jute Rope | 2.00 | @ | 2.25 |
| Jute Carpet Threads | 1.00 | @ | 1.10 |
| Gunny No. 1— | | | |
| Foreign | 1.90 | @ | 2.00 |
| Domestic | 1.80 | @ | 1.90 |
| Bleachery Burlap | 4.50 | @ | 5.00 |
| Scrap Burlap— | | | |
| Foreign | 2.00 | @ | 2.10 |
| Domestic | 1.75 | @ | 1.85 |
| Scrap Sisal | 2.00 | @ | 2.10 |
| Scrap Sisal for Shredding | 2.10 | @ | 2.35 |
| Wool Tares, heavy | 1.90 | @ | 2.00 |
| New Burlap Cuttings | 2.00 | @ | 2.25 |
| Australian Wool Pouches | 2.30 | @ | 2.60 |
| Heavy Baling Bagging | 1.95 | @ | 2.00 |
| Paper Mill Bagging | 1.75 | @ | 2.00 |
| Bagging No. 2 | 1.25 | @ | 1.50 |

### Domestic Rags (New)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| **Shirt Cuttings—** | | | |
| New Light Prints | .01¾ | @ | .02 |
| New White No. 1 | .07¾ | @ | .08 |
| New White No. 2 | .04 | @ | .04¼ |
| Silesias No. 1 | .05 | @ | .05½ |
| New Black Silesias | .03½ | @ | .04¼ |
| Soft Unbleached | .07¼ | @ | .07¾ |
| Blue Cheviot | 5.50 | @ | 6.00 |
| Fancy | .02½ | @ | .02¾ |
| Washable | .0165 | @ | .0170 |
| **Cottons—According to grades—** | | | |
| Blue Overalls | 5.50 | @ | 6.00 |
| New Black, soft | .04 | @ | .04¼ |
| Khaki Cuttings | .04 | @ | .04¼ |
| O. D. Khaki | .03¾ | @ | .04¼ |
| Corduroy | .01¾ | @ | .02 |
| New Canvas | — | @ | .05 |
| B.V.D. Cuttings | — | @ | .06¼ |

### Domestic Rags (Old)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Canvas | .04½ | @ | — |
| White No. 1— | | | |
| Repacked | — | @ | 2.75 |
| Miscellaneous | 2.50 | @ | 2.75 |
| White No. 2— | | | |
| Repacked | 1.90 | @ | 2.00 |
| Miscellaneous | 2.00 | @ | 2.25 |
| Twos and Blues | 1.75 | @ | 2.25 |
| Thirds and Blues— | | | |
| Repacked | 1.37½ | @ | 1.75 |
| Miscellaneous | 1.25 | @ | 1.62½ |
| Black Stockings | 3.90 | @ | 4.00 |
| Roofing Stock— | | | |
| No. 1 | 1.90 | @ | 2.05 |
| No. 2 | 1.40 | @ | 1.50 |
| No. 3 | 1.30 | @ | 1.40 |

### Foreign Rags

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Dark Cottons | 1.70 | @ | 1.80 |
| New White Shirt Cuttings | 6.50 | @ | 6.75 |
| Dutch Blues | 2.25 | @ | 2.50 |
| New Checks & Blues | 2.50 | @ | 3.00 |
| Old Fustians | 1.90 | @ | 2.00 |
| Old Linsey Garments | 2.10 | @ | 2.25 |
| New Silesias | 5.25 | @ | 6.00 |

## TORONTO

### Paper

(F. o. b. Mill)

| | | | |
|---|---|---|---|
| **Bond—** | | | |
| No. 1 Sulphite | .11 | @ | — |
| No. 2 Sulphite | .08½ | @ | — |
| No. 1 Colored | .12 | @ | — |
| No. 2 Colored | .09 | @ | — |
| **Ledgers** | | | |
| Ledgers, No. 1 | .34½ | @ | — |
| Ledgers, No. 2 | .25½ | @ | — |
| Writing | .09 | @ | .09½ |
| **Book—** | | | |
| No. 1 M. F. (Carloads) | 6.50 | @ | — |
| No. 2 M. F. (Carloads) | 6.00 | @ | — |
| No. 3 M. F. (Carloads) | 6.00 | @ | — |
| No. 1 S. C. (Carloads) | 7.00 | @ | — |
| No. 2 S. C. (Carloads) | 6.50 | @ | — |
| No. 3 S. C. (Carloads) | 6.50 | @ | — |
| No. 1 Coated and Litho | 12.00 | @ | — |
| No. 2 Coated and Litho | 10.50 | @ | — |
| No. 3 Coated and Litho | 9.50 | @ | — |
| Coated tinted | 13.00 | @ | — |
| **Wrapping—delivered—** | | | |
| Rag Brown | 4.75 | @ | — |
| White Wrap | 3.50 | @ | — |
| "B" Manila | 4.80 | @ | — |
| No. 1 Manila | 5.40 | @ | — |
| Fiber | 5.40 | @ | — |
| Kraft, M. F. | 5.90 | @ | — |
| Kraft, No. 2 | 5.40 | @ | — |

(F. o. b. Cars Toronto)

| | | | |
|---|---|---|---|
| News, per ton— | | | |
| Rolls (contract) | 40.50 | @ | — |
| Sheets | 45.00 | @ | — |

### Pulp

| | | | |
|---|---|---|---|
| Ground wood | 27.00 | @ | — |
| Unbleached Sulphite | 42.00 | @ | — |
| Book (Class 1) | 58.00 | @ | — |
| Writing (Class 2) | 59.00 | @ | — |
| Select (Class 3) | 60.00 | @ | — |

### Old Waste Paper

(In carload lots f. o. b. Toronto)

| | | | |
|---|---|---|---|
| **Shavings—** | | | |
| White Env. Cut | 2.00 | @ | 2.25 |
| Soft White | 1.60 | @ | 1.90 |
| White Blk. News | 1.25 | @ | 1.40 |
| **Book and Ledger—** | | | |
| Flat Magazine and Book Stock (old) | .90 | @ | 1.00 |
| Light and Crumpled Book Stock | .80 | @ | .90 |
| Ledgers and Writings | 1.00 | @ | 1.05 |
| **Manilas—** | | | |
| New Manila Cut | 1.25 | @ | 1.40 |
| Printed Manilas | .50 | @ | — |
| Kraft | 1.00 | @ | 1.60 |
| **News and Scrap—** | | | |
| Strictly Overissue | .55 | @ | — |
| Strictly Folded | .50 | @ | — |
| No. 1 Mixed Paper | .40 | @ | — |

### Domestic Rags

(Price to mills, f. o. b. Toronto)

| | | | |
|---|---|---|---|
| No. 1 White Shirt Cuttings | .07½ | @ | .07¾ |
| Fancy Shirt Cuttings | .02¾ | @ | .03 |

# PAPER TRADE JOURNAL

ESTABLISHED 1872

SIXTY-FOURTH YEAR

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Published Every Thursday by the LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President — JOSEPH P. HORGAN, Secretary

Published at 34 No. Crystal St., East Stroudsburg, Pa.
Executive and Editorial Offices: 15 West 47th Street, New York
*Chicago Office:* 123 West Madison St.


## TABLE OF CONTENTS


| | |
|---|---|
| Institute of Paper Chemistry Opens Addition | 13 |
| Major Installations | 13 |
| Approve Container Financing | 14 |
| Association Activities | 14 |
| Paper Market Outlook | 14 |
| Pictorial Paper Package Corp. Files | 14 |
| Dill & Collins Directors Honor H. P. Carruth | 16 |
| Boston Paper Demand Moderately Active | 18 |
| News of the Industry | 18 |
| Effect of Mineral Fillers on Serviceability of Coating Asphalts | 18 |
| Historical Sketch of the Development of the Labor Movement of the United States | 21 |
| Newsprint Production Increases | 28 |
| Vulcalock Process Not an Infringement | 28 |
| German Paper Products Increase in 1935 | 28 |
| Obituary | 29 |
| Indianapolis Demand Less Active | 29 |
| Lawrence Acid Pumps | 29 |
| An Invitation from Crane Co. | 29 |
| New Board for Bathurst | 29 |
| **Editorial** | 30 |
| A Papermaking Pilgrimage to Japan, Korea and China | 30 |
| American Writing Reorganization | 31 |
| Sandy Hill Reopens Foundry | 31 |
| Production Ratio Report | 31 |
| Eddy Paper Corp. Builds at Olean | 31 |
| **Technical Section** | |
| Some Papermaking Equipment Observations | 33 |
| Delaware Valley Section Finale | 39 |
| New England TAPPI to Meet at Toy Town | 39 |
| A Correction | 39 |
| Pulp and Paper Industry Literature Review | 40 |
| Construction News | 41 |
| New Companies | 42 |
| Government Paper Bids and Awards | 42 |
| Imports of Paper and Paper Stock | 45 |
| **New York Market Review** | 48 |
| **Miscellaneous Markets** | 50 |
| **Market Quotations** | 50 |


THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements 54-55


*Profit Eaters*

Slime Bacilli isolated from fresh water × 5,000

## A HUNGRY HORDE

Unseen, they enter in countless millions—carried by the water supply or with the raw stock—these slime forming bacilli directly responsible for huge losses in pulp and paper mills.

Impaired quality of product, loss of paper making materials, increases in production costs are all traceable to these microscopic organisms.

But—slime can be eliminated—slime losses turned into production economies. In over 200 leading paper mills slime elimination is successfully effected by controlled application of chlorine and ammonia with W&T apparatus—and at a cost of less than 6c per ton of product.

A demonstration in your mill will prove to you that slime elimination will:

- **Effect production economies**
- **Lengthen felt life**
- **Reduce chemical costs**
- **Improve paper quality**
- **Cut down clean-up costs**
- **Overcome slime breaks**

Ask for Research Publication 327 "Slime in Paper Mills—its Origin and Prevention."

## WALLACE & TIERNAN CO., Inc.

*Manufacturers of Chlorine and Ammonia Control Apparatus.*

**Newark, N. J.** **Branches in Principal Cities**

P-4

OTHER W&T SERVICES

Automatic pH Control • Dry Chemical Feeders

Bleach Plant Equipment

Testing Instruments for chlorine and pH

# Sliqht Slips and Misses *Are Costly*

● The cutting function in the mill is highly important from the standpoint of profit and loss. Even slight slips and misses in the operation and on the product, caused by uncontrollable shortcomings of cutters are annoying, and what's worse, wasteful.

Cutting curves, or even small wavers in your paper stock is costly in a marketing way, if it does not prove a complete loss in the plant. On a Seybold Mill Cutter, time, labor, and material costs are sent to a new low level. Slight slips and misses are cleaned up on the cutting job.

The rigid clamp that grips firmly and holds the pile throughout the cutting operation, plus the center wedge adjustment, assures constant production of what you want and what your market demands — clean, straight line edges. You can't cut any other way with a Seybold. Its specifications will prove that to you. Write for them today.

**SEYBOLD MACHINE CO. • Dayton, Ohio**

DIVISION OF HARRIS • SEYBOLD • POTTER COMPANY

New York:
E. P. Lawson Co., Inc.
Chicago:
Chas. N. Stevens Co., Inc.
Atlanta:
J. H. Schroeter & Bro., Inc.
San Francisco:
Harry W. Brintnall Co.
Toronto:
The J. L. Morrison Co.

**SEYBOLD**